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ORIGINAL ARTICLES

INTESTINAL OBSTRUCTION FROM TUBERCULAR PERITONITIS.*

BY ROLAND HILL, M. D., C. M., ST. LOUIS.

Tubercular peritonitis is not a disease of common occurrence, and cases in which it leads to intestinal obstruction are exceedingly rare, indeed.

This disease is caused by the lodgment of the tubercle bacilli in the peritoneum, and the formation of pathological lesions, which in different cases, differ quite widely in character.

Moynihan classifies tubercular peritonitis into—1. Ascitic form. 2. Fibrous form. 3. Suppurative form.

The ascitic form is characterized by the presence of clear ascitic fluid in the peritoneal cavity. No adhesions, as a rule, are present, and the peritoneum, both parietal and visceral, is usually simply studded with small tubercular nodules. The membrane is thickened, rough and congested; often bleeds readily, and has lost its polish and smoothness. As a rule, there are no adhesions present in this variety of the disease.

The fibrous form of the disease is very rare, and is due to a deposit of tubercles in the peritoneum, but is not attended with ascitic effusion. In this variety of the disease the peritoneal surfaces may be adherent together to such an extent that the whole cavity seems filled with adhesions, and little or no free space is left. In this form, naturally, we would expect obstruction of the bowel to be of more frequent occurrences owing to the contraction of adhesions binding the bowel in such a way as to prevent passage of its contents.

The ulcerative form of this disease is, also, rare. In it the tubercular deposits first undergo caseation and then suppuration, forming localized abscesses.

The first case I have to report today is one of fibrous tubercular peritonitis, leading to complete obstruction of the intestine, with the formation of a large mass distinctly discernable from the outside of the abdomen.

*Read at the annual meeting Jefferson City, May, 1906.

Mrs. J. S., white, English by birth, age at the present time, forty-five years. Her family history is a particularly good one; there were nine children in the family, and two of them had diphtheria and died. Outside of this there is no history of sickness of any kind among them. Her mother lived until forty-two years of age, and died as a result of child-birth. Her father died at the age of fifty-seven, from pneumonia.

The patient during early girlhood had been always strong and robust, and did not know what it was to be sick. The first time she ever noticed that anything was wrong was after a heavy lift or strain, in 1881, when she was twenty years old. After this she complained at intervals of severe pain in the back; numbness at times over all parts of the body, even head and tongue, and dizziness. This series of symptoms occurred at irregular intervals up to May 21st, 1896. On this date the patient was seized suddenly with very severe, gripping pain in the bowels, of a twisting character, about the navel, in the back, and over the region of the left kidney. These pains were very excruciating, and lasted about four hours, then they would pass off for a time, leaving an uneasy or dragging sensation in the abdomen. In a few hours there would be another attack of the same character, which would pass off in the same way.

After this series of attacks had persisted for eight weeks, they suddenly subsided, and were followed by an interval of relief for three months, only two attacks occurring during this period of time.

I first saw this patient in the latter part of June, 1896, and found her very anæmic, intensely depressed, very much emaciated, and at that time there was some little trouble in retaining nourishment. The temperature at times was normal, or sub-normal, and again it would be elevated a degree. The urine was very scanty, and contained a little albumen and crystals of oxalate of lime. Her symptoms at that time, while very obscure, were more suggestive of kidney stone than any other disease.

In September, 1896, the severe paroxysmal pains recurred. They were of the same crampy, twisting character as those of previous illness, but after lasting from one to four hours, she would have a spell of vomiting, which was followed by relief. The second attack was nearly a month later, but after this the attacks recurred at shorter intervals of time until the patient had two or three seizures a day. In December, 1896, and January, 1897, the patient rapidly lost ground, and in the early part of February, 1897, a mass appeared in the left inguinal region about the size of a child's head. It could be felt through the vagina, and from its consistence might have been taken for an ovarian cyst, except for rapid development. The symptoms of intestinal obstruction now came on rapidly, and the patient at last agreed to submit to an exploratory laparotomy. She was taken to the hospital, and I opened the abdomen February 26th, 1897. The first

trouble experienced was in getting into the abdominal cavity, as adhesions were found connecting the intra abdominal contents to the abdominal wall, in fact it looked as though the whole abdominal cavity were a mass of adhesions.

The mass, felt from the outside, was simply an agglutination of coils of the small intestine together, and the whole peritoneum, as far as seen, was studded with tubercular nodules. There was no ascitic fluid present. The patient had fecal vomiting on the table, and her condition was truly desperate, so the intestinal adhesions on the left side, where coils were bound together, were simply separated, and the abdomen closed without further exploration of the cavity, and without drainage. The patient was put to bed in a desperate condition, and an early end seemed inevitable.

Much to my surprise and gratification, however, the symptoms of obstruction passed away at once, and outside of a little trouble from gas formation, the patient made a rapid and uneventful recovery. Since that time, now over nine years, this patient has been perfectly well, and has been free from discomfort in the abdomen. She has done all of her own work, and says she is perfectly well. An examination of the abdomen made a short time ago did not reveal any sign of intra abdominal trouble.

This second case of intestinal obstruction consequent upon tubercular peritonitis that I wish to report, occurred in the practice of my friend, Dr. H. L. Nietert, through whose courtesy I am permitted to present the appended.

Case II. Miss S. R., a young woman twenty-four years of age, and of German parentage, came under observation in July, 1905.

Family History,—negative. There was no tubercular or malignant history obtained. Patient's brothers and sisters healthy. Parents living.

Previous History. Usual diseases of childhood. Has always enjoyed robust health, save for an attack of "indigestion." Patient has always lived in the country where she found it necessary to do plenty of work. She has always been strong. Menstrual history normal.

Present Trouble. In July, 1905, while doing household duties, the patient was suddenly seized with more or less severe pains in the abdomen, which became somewhat localized in the lower right quadrant. The pains were of an intermittent character, and seemed to radiate upward and downwards from the appendical area. Inspection showed expression slightly anxious; cheeks flushed; abdominal contour not much changed, perhaps slight distention. Palpation revealed pulse 86; muscular rigidity not especially marked; both recti tense; no mass was palpable; fluctuation absent; no point tenderness; localized, tender area made out just to the right of the uterus, by rectal examination. Percussion failed to reveal any localized area of dullness.

The symptoms persisted; the temperature ranged between 99 and

100; vomiting was absent; a diagnosis of appendicitis was made, and the patient subjected to operation.

A small incision was made along the outer border of the right rectus. The appendix was found to be, apparently, normal. A more careful examination in the ileocecal region revealed a very peculiarly looking mass, perhaps four inches in thickness, and seven in length, everywhere covered with cicatriceal tissue. The mass was lifted up out of the abdomen and carefully inspected. Upon finding that it apparently consisted of several coils of the lower portion of the ileum. and feeling confident that this condition explained the patient's symptoms, the mass was excised, and an end-to-end anastomosis made by means of a Murphy's button. The patient was returned to bed in excellent condition.

Examination of the specimen showed the latter to consist of thirty-three inches of ileum folded together, and firmly united by old adhesions. At the mid-point of the specimen was a stricture, which latter would scarcely admit the tip of the little finger. The stricture consisted of very dense connective tissue, which latter extended around the lumen of the intestines. At this time, it was held probable that the condition had followed the healing of a tubercular ulcer.

Ten to twelve days after operation the patient complained of vague, paroxysmal pains in the abdomen. Gradually, these increased somewhat in frequency and severity. The patient was out of bed three weeks after operation, but for some unknown reason the button failed to pass. Palpation in the region of operation induced pain. At times it seemed as though the button could be felt in the ileocecal region.

At the expiration of five weeks an attempt was made to cause the passage of the button, owing to obstructive symptoms. Purgatives, special diet, gentle massage, etc., were resorted to, but without success. Six weeks after the original operation, the abdomen was opened. Considerable quantity of clear fluid escaped. The parietal peritoneum in right lower quadrant was covered with small tuberculous nodules. The intestines were matted to the omentum, and together, and covered with miliary tubercles. The button was found at the site of anastomosis, and removed. Owing to the fact that the appendix was found matted in the newly formed adhesions, it was liberated and excised.

At the time of the second operation, the diagnosis was clearly that of tubercular peritonitis. Convalescence was slow, but eventually apparentlly satisfactory, and the patient is still doing well.

I have reported these two rare cases today, as illustrative of some of the very rare forms in which tubercular peritonitis may occur. Many theories have been advanced as to why simply opening the abdomen, or opening and separating adhesions cures a certain percentage

of the cases of peritoneal tuberculosis, but so far as I know none of these theories have been definitely proven to be correct.

The first case I recorded is particularly rare, as in fibrous tubercular peritonitis the leading authorities claim that, as a rule, surgery is of no benefit. However that may be, I am very glad that this case is an exception to the rule, and that we have now, after nine years, a live, healthy woman in place of a patient who could not possibly have lived more than a few hours without surgical relief.

PERICARDITIS WITH EFFUSION.*

BY W. J. CALVERT, M. D., COLUMBIA, MO.

In this paper, I wish to call attention to some of the hydrodynamic factors involved in pericardial effusion.

The paper is based on a post mortem study of pericarditis with effusion, which was fixed in formalin and sectioned transversely, thus presenting the organs to view in their relationship at time of death.

Case: Body was that of a well developed male negro, thirty years of age. Anatomical findings were as follows: tuberculosis of the left lung and pleura; right pleura; mediastinal lymphatic glands; upper portion of the pericardium; posterior peritoneal lymphatic gland; and right adrenal. The heart was collapsed and the liver and diaphragm were displaced downward.

The following points are of interest: 1st. The collapse of the venæ cavæ. The section shows these veins collapsed from their entrance into the pericardium to the right auricle. 2nd. The collapsed condition of the heart and that portion of the aorta within the pericardium.

The collapse of the venæ cavæ within the pericardium indicates that intra-pericardial pressure can under no circumstances be greater than the pressure in the venæ cavæ. If the intra-pericardial pressure becomes greater than that in the venæ cavæ, that portion of the latter within the pericardium must collapse thereby blocking the flow of blood to the right heart and instantly producing death.

When fluid begins to collect in the pericardium it is under a pressure below that of the venæ cavæ, which is in inspiration negative and in expiration just normal, or faintly positive. When the pressure of the intra-pericardial fluid becomes equal to the intravenous pressure, the intra-pericardial pressure causes a partial collapse of the veins, especially when the intra-venous pressure is lowered during inspiration. This partial collapse of the veins, naturally causes venous obstruction and greater or less venous congestion. This congestion causes a rise in the intra-venous pressure, which pressure must be greater than

*Read by title at the annual meeting, Jefferson City, May, 1906.

the intra-pericardial pressure. Under this new relationship of pressures the blood flows practically normally to the right heart. Gradually the intra-pericardial pressure increases causing an increasing intra-venous pressure; but always less than the intra-venous pressure. There is a limit to the possible, intra-venous pressure due to obstruction, consequently there must come a point when, with an increasing intra-pericardial pressure, the intra-pericardial pressure will for the last time approach in degree the intra-venous pressure. When this point is reached the intra-venous pressure during inspiration becomes less than the intra-pericardial pressure. During this period the intra-pericardial pressure causes the veins to partially or to completely collapse thereby blocking partially or completely the flow of blood to the right heart. When expiration begins the intra-venous pressure rises above that in the pericardium. Now the veins open and the blood flows more or less freely to the right heart. So the ever changing relationship of pressures in the pericardium and veins continues until the intra-pericardial pressure becomes sufficient to permanently block the veins, when death ensues.

As it has just been shown the intra-pericardial pressure can never be greater than the intra-venous pressure without causing death, it follows that the pressure in the pericardium must, during life, remain quite low and consequently as such have but slight if any effect on the heart's action or degree of distension. The flow of blood through the veins to the right heart is mostly responsible for the heart's manifestations. If very little blood flows to the right heart it must naturally remain contracted for there is nothing to distend it. If the normal amount of blood enters the right heart it must dilate to its normal size as the slight intra-pericardial pressure is not sufficient to prevent its dilation. When the intra-pericardial pressure is permanently positive, it naturally offers a proportionate resistance to the dilating heart. On account of the delicate intra-thoracic equilibrium this slight pressure has more practical effect than is at first apparent.

When the intra-pericardial pressure is at its maximum and the arterial pressure low on account of the small amount of blood entering the left heart that portion of the aorta within the pericardial sac becomes partially or completely collapsed, and naturally offers some resistance to the passage of blood. This is, however, of minor importance because the left ventricle can easily overcome the intra-pericardial pressure, and because the blood is simply transferred from the ventricle to the aorta or the ventricle becomes smaller as fast as the aorta enlarges, consequently the value of the contents of the pericardium is unchanged until the blood pass beyond the pericardial walls.

The flow of blood from the veins to the right heart is the most important factor in determining the state of the heart and general circulation.

When the intra-pericardial pressure begins to occlude the veins

during inspiration a diminished quantity of blood flows to the right heart during inspiration. Consequently a diminished amount of blood must flow to the lungs with each systole of the right heart. And so a diminished amount of blood to the left heart and systemic arteries. This would, other factors remaining equal, give a lowered arterial pressure, smaller pulse wave and a rise in pulse rate.

While inspiration has caused a partial or complete obstruction to the veins, the intra-venous pressure has reached its maximum from congestion. So that when the increased pressure incidental to expiration is added, the intra-venous pressure rises above that of the pericardium, the veins are opened and blood flows more freely to the right heart. Consequently to the left, thence to the general circulation. This increase of blood in expiration, other things being equal, causes a rise in arterial pressure, a higher pulse curve and a slower pulse rate. Or in other words pulsus paradoxus must follow when the intra-pericardial pressure remains slightly below the maximum and slightly above the minimum intravenous pressure.

The venous congestion, mechanical in origin, resolves itself into a compensatory congestion by means of which a relatively normal amount of blood under an increased pressure flows through the constricted venæ cavæ to the heart. When the intra-pericardial pressure approaches the maximum venous pressure, the venæ cavæ within the pericardium become more constricted without a corresponding increase in venous pressure or the venous compensation begins to fail or broken compensation is present. As shown above, pulsus paradoxus is present when the two pressures are about equal. It follows, then, that a distinct pulsus paradoxus in pericarditis with effusion is a sign of a broken compensation in the venous congestion and that the amount of blood entering the heart has been reduced practically as much as is possible, and at the same time to maintain life. At this time a general anæmia has developed which may be responsible for many of the pathological changes noted in pericarditis with effusion.

From a prognostic point of view pulsus paradoxus considered in conjunction with the activity of the lesion may give valuable information. If the process is active it will require, at most, only a few hours for the intra-pericardial pressure to close the veins after a pronounced pulsus paradoxus has been developed. The reverse is true in a case of long standing. Here the degree of pulsus paradoxus may be of value. Even in a normal individual there is a slight difference in the pulse curve in inspiration and expiration. But this difference is very slight. Pulsus paradoxus may vary from this physiological difference to the point when in inspiration the pulse is entirely suppressed. The various degrees depend on the nearness of equality between the intra-pericardial and intravenous pressures. A marked or pronounced pulsus paradoxus is one in which during inspiration no peripheral pulsations occur.

From a therapeutic point of view a pronounced pulsus paradoxus indicates the necessity for immediate reduction of the intra-pericardial pressure.

This hydro-dynamic consideration of pulsus paradoxus clearly indicates its prognostic and therapeutic value.

PERCENTAGE MODIFICATION OF MILK FOR INFANT FEEDING.*

BY GEORGE C. MOSHER, M. D., KANSAS CITY, MO.

The present status of the question of artificial feeding of infants is a matter of scientific, therapeutic accuracy through percentage modification of milk. This is the outcome of fifteen years work by Dr. Thomas Morgan Rotch, of Harvard Medical School, who is the originator and chief exponent of the system of feeding. Its great value can best be appreciated by the endorsement of Dr. L. Emmett Holt, Professor of the Diseases of Children in the College of Physicians and Surgeons, New York; Professor William Perry Northrup of the University and Bellevue Hospital Medical College, Department of Diseases of Children; and other men of similar standing in the pediatric world.

The first proposition in feeding young children will admit of no argument, that the ideal food is the healthy milk of the breast of a normal mother; but in this day of strenuous living, both among the young matrons of society who find themselves unable to furnish alimentation suitable for the growth and development of their offspring, and also among the mothers whose lives are cast in the other extreme of the social radius, those with insufficient food and care in the lying-in period, the demands of existence driving them early to toil, the mother's milk proves a failure. Even in the well-to-do middle classes, as civilization increases, the number of mothers who can nurse their children proportionally decreases.

Recent statistics in regard to the mortality among children show that one-half of all those born die before the age of five years. A large number of these perish in the first twelve months of existence, many of them from disorders of digestion and the diseases growing out of defective metabolism; among these are rachitis, infantile atrophy, infantile scorbutus, and various gastro-intestinal lesions.

No other question, I believe is such a trial to the young practitioner, as the problem of artificial feeding of infants; nor does long experience put his elder brother in a position of positive security in advising what shall be the substitute food. Manufactured foods, including all powdered preparations and condensed milk, have been tried and been found anything but successful, not but that we may have known

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in our own, individual experience instances which contradict this statement.

Without doubt, the first adequate substitute is the milk of another mother, a wet nurse. This has many objections. First, to know that the wet nurse is free from tuberculosis, specific disease, and other physical ills. Second, that her disposition and training fit her to take the place of the mother. Realizing, as she does, her power in the family circle where she sits enthroned because of dependence on her, there is danger of yielding to the temptation of gormandizing, of being lazy or ill tempered, and becoming the tyrant and terror of the household. These, and many other objections must be raised to the wet nurse as being, in America, an ideal substitute. Abroad, where a large peasant class can be drawn on for nurses of placid manner, healthy condition, and lack of ambitious longings, this part of the subject may not be difficult to settle.

The discussion of mare's milk, goat's milk, etc., in this country is fruitless, because of lack of supply. In St. Louis an effort was made, it is asserted, last year, to import two hundred Swiss milch goats to hire out for infant feeding. In our modern style of living in apartments, in flats, the goat might be kept secreted in the ice box on the back porch if the eagle-eyed janitor were judiciously seen. However, this plan is still *sub judice* and has not been demonstrated a success.

Then we come to the only available substitute for the mother's milk, which is the milk of the cow properly cared for, and protected from contamination by bacteria from the minute of its production to the moment of consumption by the child.

Heretofore, little or no attention has been paid to the source of the milk. Dr. Rotch has insisted on a herd of healthy cows, Holsteins preferred because of the vital element, which the experiments at Storrs Station, and those of Professor Carlysle and Professor Haecker, of the University of Minnesota, have shown the milk of the Holstein cows possesses in a phenomenal degree. While not holding that the digestion by the human baby is to be compared to that of the calf, there is an analogy which is at least suggestive.

This herd should be tested for tuberculosis and other diseases. It should be housed in a well-lighted stable free from dust and dirt; cows brushed and udders wiped dry before each milking, with a personnel trained in the elementary knowledge of practical bacteriology as regards contamination; milkers delivering the milk to a dairy house where no odor of the stable is tolerated, and the dairyman then aerating and cooling the milk to 40 degrees immediately; promptly delivering to the laboratory, carefully protected from contamination en route, where the modification is done in the likeness of mother's milk.

For much of the information as to the care of the herd, barns, and technique of clean man and beast, to keep low the bacterial count, the medical profession is under obligation to Messrs. George H. Walker

and G. E. Gordon of the Walker-Gordon Milk Laboratory of Boston. They say milk undergoes the greatest risk of infection in the first ten minutes of its existence, at the milking, before it is put into the sterile bottles and sealed.

Quoting from Dr. Northrup, "The best results in preparing a substitute feeding for a city's needs, require a central head, a director, and an organized company to carry into execution his orders." This places the whole line of development, from the farm to the nursery, under one responsible control. In addition to the working force, this system requires an inspecting chemist, a bacteriologist, a veterinary surgeon, and the very important medical commission, appointed by the official medical society, whose sole function is to advise and find fault.

The American system of percentage feeding, or exact laboratory feeding is a copying of nature's formula in milk fresh from the cow, put up in the laboratory and prepared according to the prescription of the physician, which may be changed to fit changing conditions and changing needs. Breast milk is not always good, does not always agree. It varies, but cannot be changed.

Percentage milk is not a patent food, not a powder to be moistened and fed, not a commercial article warranted to keep in any tropical climate forever, but simply clean cow's milk, dispensed only under prescription of the doctor who decides the modification to suit the condition of the child. It is impossible for each physician to conduct his own laboratory, hence the necessity for having a general laboratory for the use of the profession.

Not every child needs the same percentage of the fats, sugars, and proteids in its feeding. The simple dilution of cow's milk with water, and the adding of a little sugar of milk cannot meet the demands of the digestion, nor be considered a proper modification, because the relation of fat, proteid and sugar is not in this manner sustained.

The medical profession has found that scientific modification on exact percentages must be done to secure a substitute food with which to replace the breast milk of the mother.

The methods pursued by Dr. Rotch, in advancing the system of modification by percentages are very interesting. Briefly they are:

1st, Ascertaining the percentages of milk ingredients, especially of fats, sugars and proteids in the mixed milk of herds. This requires an examination by modern methods of all previous analyses of milk, from which our own conclusions are to be drawn.

2nd, Ascertaining the percentages of similar ingredients in breast milk. From a paper published in the Journal of the American Medical Association, it is seen that these were determined in cases of healthy women, private patients of Dr. Rotch; in all, five and one-half litres being collected for the analysis.

3rd, Ascertaining not only the percentages of the fats, sugars, and

proteids, but ascertaining, as far as possible, the physical and chemical constituents of the milk, the proteids, and all points relating to their digestibility.

4th, Ascertaining, since there has been found so much variation in individuals, the corresponding percentages of fats and proteids, designating them "high average" and "low average" breast milk.

Cow's milk has less variation. As Dr. Northrup says: "This systematic study has been a life work, and the work is worth it." Having ascertained the percentages in cow's milk and in the "high average" and "low average" breast milk as to fats, sugars and proteids, a duplicate, as near as possible, is evolved out of the former as a substitute for breast milk. A large number of tables of these results are published by Dr. Rotch, and are now the property of the profession.

Approximately, cow's milk contains 4 per cent. fat, 4 per cent. sugar, 4 per cent. proteids. High average breast milk contains 4 per cent. fat, 7 per cent. sugar, 2 per cent. proteids, thus showing the same amount of fat, more sugar, and half the amount of proteids.

The problem is to dilute proteids one-half and keep the fats the same.

To consider only fats and proteids: first, the fats are the same in each; proteids one-half in mother's milk. All the fat can be removed by centrifuge. To readjust the proportion, the proteids should be diluted, and then put back in proper proportion. While diluting fat-free milk containing the proteids, the required percentages of sugar and lime water may be included. The fat is removed from fresh new milk in the form of cream, the percentages varying according to the adjustment of the centrifugal cream separator. The remaining milk, fat-free, is diluted to the desired proportion. Approximately, F. 4 per cent., S. 4 per cent., P. 4 per cent., becomes 0-4-4, and the cream 8-4-4. Fat-free milk is 0-4-4, which, when diluted with equal volume of water, makes the percentage content of proteid in a given volume of milk just half as much, or 2 per cent. Having removed the fat and diluted the proteids, we have 0-2-2. To transform cow's milk, 4-4-4, to human milk, 4-7-2, then requires:

1st, Removing all fat.

2nd, Diluting fat-free milk one-half.

3rd, Putting back the required amount of fat.

4th, Sweetening with sugar of milk.

For all modifications, except whey mixtures and prescriptions calling for combination of high fats and low proteids, a 16 per cent. cream is used. For whey mixtures and combinations like that just mentioned, a 32 per cent. cream is used. Any required diluent may be ordered in modified milk, as a cereal, fresh whey, etc.

Further problems peculiar to the adaptation of cow's milk to breast milk formula are met, such as, the qualitative differences of proteids. To this consideration, especial attention has been given in

the years of 1904 and '05. The proteids of both cow's milk and breast milk are made up of caseinogen and whey proteids (lactalbumin). Not only, is the amount of proteid which constitutes the nitrogenous elements of both milks, twice as abundant in one as in the other, but they are again made up of two distinct elements which differ in the two milks, breast milk and cow's milk.

Thus, the proteids of cow's milk differ from those of human milk not only in quantity, but in quality; and not only in absolute percentage, but in the proportion of their two chief ingredients.

The woman can compete in fat making but not in cheese production, the proteids of the cow excelling by nearly five times the amount of caseinogen. Breast milk contains two and one-half times as much whey proteids.

The laboratory is prepared to re-adjust qualitative differences. The remaining modifications are very simple. The milk is to be diluted, the sugar solution added. To produce an alkaline reaction, lime water replaces a part of the diluent.

The proper modifications of milk can only be effected by skilled persons in a proper laboratory. In fact, the laboratory becomes in the feeding, as stated by Dr. Rotch, what the druggist is to the dispensing of medicine. No doctor asks the druggist to send him a medicine suitable for the illness of his patient, but orders the remedy he requires, and the druggist fills the prescription.

The modified percentage milk, packed in iced crates, can be delivered to the house, or shipped by express, or sent on a week's voyage by sea, as has been done by the Walker-Gordon Milk Laboratory.

The product of one American sanitary dairy went across the ocean and took first prize at Paris 21 days after milking. It was simply clean, sweet milk iced, no sophistication, no preparation other than the absolute observance of sanitary precautions. These laboratories are now established in 24 cities. In addition to the regular modification in the laboratory, milk for home modification is sold in quart bottles for a price within the reach of working people. A milk fund for the poor is also a part of the establishment, the funds being furnished, usually by patrons who, grateful for the benefits to their own children, gladly aid in furnishing percentage milk to the unfortunate mother unable to buy it for her baby.

It is to be hoped that the profession here can soon have the same opportunity to give our infant patients the advantage, which our brethren in the Eastern cities have long ago enjoyed, of prescribing the only scientific substitute for mother's milk.

THE TREATMENT OF HEMORRHOIDS.*

BY W. H. STAUFFER, M. D., ST. LOUIS.

Among the many diseases to which flesh is heir, it might be said that there is none of more common occurrence, more annoying, or more acutely painful than hemorrhoids. Hemorrhoids have been encountered at all times, in all climates, in both sexes, at all ages, in both the robust and the debilitated, and in all walks of life.

It is my intention to confine myself strictly to the subject, although there is much that might be said relative to the etiology and pathology of this very common disease. The treatment naturally resolves itself into palliative and operative depending upon the pathological condition existing and the circumstances and wishes of the patient. Resort to tentative or palliative measures in conditions which may be radically cured by operations, little if at all dangerous, is not considered conservative surgery today. There are many patients, however, in whom radical measures are out of the question, on account of complicating circumstances or diseases. Physical and nervous conditions, business and social arrangements, and sometimes the absolute lack of moral courage, frequently render it impossible or inadvisable to operate for hemorrhoids.

Some hold that the palliation of hemorrhoids is unscientific, and only done for sordid motives; that radical removal is the only method of treatment. Aside from the fact that operation is often contraindicated, the patient himself has some right to choose whether he will be operated on or treated by palliative means for conditions in which life is not endangered. It is true that hemorrhoids are likely to recur after palliative treatment, but it is also true that many patients treated by these methods go for years without any recurrence, and some never have it.

The fact that the large majority of those who suffer from rectal diseases in the United States today are treated by irregular practitioners, is due to the inability or refusal of the general surgeon to apply palliative measures properly. No operative method is without some immediate or remote danger, therefore, while a patient may be told that there is practically no danger to his life, there is always the possibility of results which are altogether undesirable. Of course such results are very improbable, but they do occur, and patients hearing of them become unalterably opposed to operative procedures, and the radical methods have been frequently brought into disrepute by being forced upon such individuals who suffer from imaginary disabilities and discomfort in the rectum forever afterwards. In cases, therefore, with these exaggerated fears and antipathies toward an

*Read before St. Louis Medical Society, June 9, 1906.

operative procedure, it is better to adopt the palliative method, explaining thoroughly that they are not radical cures but that by repetition they will give relief and maintain comparative comfort as long as they are continued.

The cardinal principles in the palliative treatment of hemorrhoids consist in the prevention of prolapse and arrest of hemorrhage. The hemorrhage is always the most alarming symptom to the patient, and, as it may be excessive, it should be considered first. It is rarely difficult to stop the flow. Rest in horizontal position, cold applications, astringents, and local anesthetics may be used. The many proprietary preparations on the market, guaranteed to cure piles of all kinds, are sufficient evidence that no one remedy is adapted to all cases. The intelligent physician will select his own remedy, after making a definite diagnosis. The chief object is to prevent its recurrence.

In the first place, obstructions to the portal circulation should be remedied at once, whether they be in the line of the vessels or in the liver itself. The diet should be regulated as to quality and quantity Less food and more exercise is usually good advice in these cases, but there are exceptions to this rule. Restriction in the use of carbohydrates and alcohol is always necessary.

Having concluded that operative interference is indicated, the first step is to make a definite diagnosis and determine the exact pathological condition. It is absolutely wrong and extremely unsurgical to treat all cases of piles by the same operation, for piles vary as much as other diseases.

Of the large number of operations devised by various persons three or four are, in the writer's opinion, worthy of consideration. In general terms, it is well to remember that that operation is best which sacrifices the least tissue, is painless and does not impair function. Cicatricial tissue should be avoided if possible, as it predisposes to ulceration, with all its unfortunate results. Suffice it to say that at least 60 per cent. of cases of cancer of the rectum give a history of a prior ulceration.

At least thirty-six hours should be taken for the preparation of the patient for operation. The intestinal canal being thoroughly emptied and the parts rendered as nearly aseptic as possible. The use of local anesthetics for operative interference in this region has kept pace with all departments of surgery. Like all other good things, there is danger of overdoing. It has been conclusively demonstrated that they are by no means devoid of danger, however skillfully employed. Their use is largely responsible for incomplete and bungling work. The performance of so-called minor operations in the office of the surgeon, however well equipped, with the exception of external hemorrhoids, is not to be encouraged. It is impossible to prepare your patient properly or care for him adequately afterwards.

For general anesthesia, I prefer and use ether, unless contraindicated. The patient should be entirely under its influence before beginning any operation, and it is always well to advise the anesthetist when you are ready to begin, so that due caution may be exercised.

The violent and extreme dilatation of the sphincter ani is unnecessary, and often harmful. Any undue traumatism predisposes to infection or tissue unrest which is the proper name for that somewhat vague term, inflammation. Unnecessary manipulation and violence to tissue, no matter what operation is practised, often add more to the time and discomfort of convalescence than the operation itself.

The operation of excision by means of one of the various methods devised, and the union of the parts by catgut sutures, is no doubt the ideal method, but the great difficulty in procuring an aseptic field and keeping it so will always limit this procedure to selected cases, such as mixed and external hemorrhoids, especially those associated with prolapse of the mucous membrane. Only the pathological tissue should be removed, and no attempt should be made to substitute a major operation when a minor one is indicated. All bleeding must be controlled, and the stitches so placed as to secure good coaptation, and where they can be kept clean without causing undue discomfort.

Primary union can reasonably be expected if the after treatment is properly attended to. This operation, however, is contraindicated if the ulcerated tissue cannot be eradicated or the hemorrhoids are located so high that the field cannot be inspected during convalescence.

The clamp and cautery operation has come to stay, and is considered by many eminent men the only one worthy of consideration. It is especially well adapted to chronic cases with relaxed sphincters, where contraction is much to be desired. The technique of the operation is known to all of you and will not be discussed, suffice it to say, that the ultimate result and comfort of the patient depend more upon its proper performance and after treatment than any minor operation in surgery. Its principal objection is the large amount of cicatricial tissue frequently resulting.

The hypodermatic method of treatment employed by some American surgeons demands some attention. The fact that it was and is employed by itinerants should not deter us from investigating the method and the results obtained. Drs. Kelsey of New York, and Andrews, of Chicago, have given it a fair trial, and now only use this method in certain selected cases of internal hemorrhoids with long pedicles, and then only in their quiescent stage. Dr. W. P. Agnew, of San Francisco, has been its most persistent and consistent advocate, and deserves much credit for the unselfish manner in which he has separated the wheat from the tares. Carbolic acid is the principal ingredient employed, and experience has taught us that the stronger solutions are much to be preferred to the weaker ones. Its action is to produce devitalization and tissue necrosis. Can we not secure the

same result more satisfactorily by other methods long in use, is the question to be settled by every operator.

The ligature operation, as performed by the ancients, resembles, in many respects, the operation as done today. It comes down to us recommended by such of the ancients as Hippocrates and Galen. The majority of authors in later years and up to the present day commend it as being one of the best operations for the cure of hemorrhoids. For instance, it is endorsed by Sir Astley Cooper, Burke, Cripps, Van Buren, Bodenhamer, Allingham, Mathews and others. The results which have followed this operation deserve the highest commendation.

In the ligature operation, Galen recommended the excision of that portion of the pile external to the ligature. Others simply placed a ligature around the pile and let it slough off, while some transfixed the center of the tumor with a double ligature and tied it on both sides.

The surgeons of today differ as to the best methods of applying the ligature. The majority, however, prefer the operation which was devised by the late Mr. Salmon, and popularized by the lamented Allingham, of St. Mark's Hospital, London, where it has been practiced for the last fifty years. This procedure differs from Galen's method only in so far as to exclude the nerves from the ligature and lessen the after pain, which is done by severing the skin and mucous membrane at the muco-cutaneous junction and applying the ligature in the sulcus thus made.

The merits of any operation can only be properly judged, by considering both the good and the bad results as achieved by a competent operator. It is unfair to any operator or operation to select the weakest point and criticize the work when poorly done by a novice. Scientific honesty should actuate our motives, and a sincere desire to employ the best methods in each individual case entrusted to our care.

I have not attempted to exhaust this inexhaustible subject, but have only hoped to elicit a discussion on this very common affliction. It is devoutly to be wished that the successful treatment of hemorrhoids and other rectal diseases will the better enable the ethical physician to forestall and root out the itinerant and advertising local specialist, as well as to compete with his wide-awake fellow-practitioner, and in this way retain his own clientele, secure the fees arising therefrom, and maintain his social standing and dignity in the community in which he resides.

Humboldt Building.

ANO-RECTAL FISTULA.*

BY JEROME D. POTTS, M. D., ST. LOUIS.

The subject chosen for this paper is by no means a new one, and I do not presume to be capable of saying much that is new upon it. I shall, therefore ask the indulgence of the Society while I review some of the facts known to proctologists.

In early medical literature we find it pretty thoroughly discussed and understood, and all down the ages we find it receiving more or less attention at their hands. The columns of many of our great daily and religious papers have been repeatedly filled by the quack, rectal specialist, with his minutely detailed enumeration of its symptoms and his certain and painless method of effecting cures. In fact, so much has been written upon the subject, and so conspicuously has it been placed before the public that it is great wonder we do not find nine out every ten people suffering from it. Mankind, indeed, is fortunate in not being susceptible to all the evil influences that surround him, if familiarity with the clinical history of disease processes rendered him capable of simulating disease he would be constantly ill. It is said that "man may become like that which he worships" but no one has had the temerity to say that he becomes like that which he dreads. Mental processes may affect bodily nutrition in a general way but we do not believe that they can in a local way. Men do not have fistula because they know all that the papers and almanacs say about it, but because of the entry into their organisms some disease producing elements they are unable to successfully combat. A germ, or germs pass the sleepy, epithelial sentinel and bid the phagocytic army enter into a hand-to-hand conflict for supremacy. Sometimes the invading host is completely routed; often a few stragglers are left to continue the fight. Ano-rectal fistula, unlike pruritis ani, is real pathological entity. It is no mere symptom of some indefinite pathological process. There is something to it that may be seen and felt by the sufferer and the surgeon.

It is truly no respecter of persons or conditions in life. The prince in his palace with all his retinue of attendants about him, and with perfect hygienic surroundings falls a victim like the hobo in his hovel. The greatest number of victims, however, are seen among the lower classes and those who are addicted to the use of alcoholics.

It is decidedly the most common rectal disease affecting adults that comes under the observation of the proctologist. The reason for this is not quite clear to my mind, but it is possibly due to the fact that it is less successfully treated by the general practitioner. Certainly, it can not escape recognition by the careful observer. The reports from the

*Read before St. Louis Medical Society, June 9, 1905.

out-patient department of the various hospitals of this Country and England show that one person in every four with rectal disease has a fistula. Ten hundred and fifty-seven cases of fistula were seen among four thousand cases of rectal disease in St. Mark's Hospital of London.

It is no wonder, then, that the advertising rectal charlatan makes so much ado about anal fistula. It is a source of much remuneration to him and he never fails, because of modesty, to work it for all it is worth. Hypersensitive olfactories never cause him to disregard rectal symptoms. Every one that consults him receives a more or less careful examination of rectal region before he leaves the office. I would that this were true of every ethical member of the medical profession. The field from which they draw so many fat fees would rapidly grow smaller and smaller until they were forced to seek some more honorable means of making a living. This field legitimately belongs to the ethical practitioner and he should not hesitate to lay claim to it.

Fistula in ano may be defined as a pathological communication between two more or less distant points, one or both being upon the rectal mucous surface or upon the peri-anal integument. This communicating tract may lie immediately beneath the mucous membrane or skin, or it may penetrate the deeper peri-anal or peri-rectal structures. The length and general course of the sinus is a question that will have to be settled in each case. Sometimes it is long and straight, at other times it is short and tortuous.

Location of opening is frequently of some advantage in enabling the surgeon to determine the usual course of the tract. Goodsall has said that, when the opening is found in the posterior half of the anal ring, the course of the tract will be directly upward, or upward and backward along the fibres of the levator ani muscle. If the opening be found in the anterior half segment, the course of the tract will be directly upward or along the anterior wall of the gut, or around-encircling-the gut. No general rules for finding the tract can be laid down. Nothing less than a definite, working knowledge of the anatomy of the parts, and an unlimited experience, can make one expert. Rules are a bad thing for the surgeon unless "read between the lines" with a great deal of common-horse, sense. They are frequently misunderstood and misapplied.

The *Classification* of fistula seems to have been attended with more or less confusion in the minds of medical men. Often, when speaking of one of the so-called blind types, it is difficult to determine which end is closed. Proctologists, however, are pretty generally agreed upon the following classification, viz.:

Complete fistula—with one external and one internal opening.

Incomplete fistula—blind Internal—with no external opening. Blind External—with no internal opening.

Horse-shoe fistula—with two openings near each other—canal horse-shoe in outline. Internal or external.

The name, recto-vesical, recto-urethral, and recto-vaginal indicates the location of the respective openings and probable course of the tract.

The complex fistula consists of multiple sinuses and numerous openings, or one sinus with many radiating canals and one opening.

The line of demarkation between the internal and the external types of fistula is universally understood to be the muco-cutaneous junction. The etiological factors in fistula are practically the same in all cases, save in those which result from punctured wound about the rectum. An abscess, tubercular or otherwise, forms, it opens spontaneously or is imperfectly treated by the surgeon and a discharging sinus is left. The more or less frequent movement of the parts through or over which it passes, does not permit it to heal. Granulations after granulations spring up only to be broken down by muscular movement or by pressure of the descending fecal mass. Sooner or later new granulations cease to form, the patulous canal, lined with pyogenetic membrane, underlain with lardaceous tissue, surrounded by an infiltrated, indurated mass corresponding with its course, is left to try the skill of the surgeon.

Many and widly differing theories have been advanced for the failure of fistulous tract to heal spontaneously, the most rational of which may be summed up in these words, constant movement of the parts and frequent reinfection of the wound. The patient's general physical condition may be such that local pathological processes are not easily overcome.

The diagnosis of fistula should be attended with little difficulty. Frequently, this is made by the patient before he consults the physician. If doubts remain in his mind these can soon be eliminated by the careful examiner.

The first point to demand consideration is the *location* of the opening. In the great majority o finstances this is located at the superior border of the external sphincter muscle. It may, however, be located at any point up on the rectal mucous membrane, or upon the peri-anal integument some distance from the anal margin. The pus in its effort to escape seeks the point of least resistance, and, since this is along the course of the various muscle fasciæ that surround the perirectal spaces, the opening is found where the fibres blend or converge. Pus that forms in the ischiorectal spaces is limited, in front by the fascia of the levator ani muscle, and, since these pass forward and downward to blend, in part, with the fibres of the external sphincter, it is readily understood why the opening is found at this point. In rare instances the opening is located at the point where the fibres of decussate to pass around the rectum and form the third sphincter. If the pus forms in the vessico-rectal space the opening will be situated

in the anterior half of the anal ring at the lower border of the sphincter, the pus being forced to this point by the blending of the deep and superficial perinale fasciae.

The symptomotology of fistula needs no extended notice or discussion in this connection. All who have read the late standard works upon the subject of proctology are sufficiently familiar with these. I should, however, deem this paper incomplete did I not in my own way enumerate and discuss the most important signs and symptoms. It is hardly possible for any one to become too familiar with an intelligent interpretation of this or any other disease process.

The first diagonstic sign noted by the patient is the presence of undue moisture of the parts about the anus, and some stain upon the clothing. This stain may be yellowish from the presence of pus of fecal matter, or it may be brownish or black from the presence of blood. If the fistula be one of the complete types the escape of gases or fecal matter through the tract, independent of the defecatory act, may be noted. The patient's curiosity being now aroused, he seeks an explanation of the foregoing signs by the use of a hand mirror. A small red, granulating point, from which a few drops of pus or blood exudes is found, and he is convinced that some thing is radically wrong about his anus. He visits the surgeon and relates a history of more or less vague discomfort, or acute lancinating, throbbing pain in the region of the sacrum, coccyx, bladder, or perineum followed by a discharge of pus and blood, with subsidence of the primary symptoms. Acute pain is not again noted except during the passage of foreign bodies or fecal matter, or when the tract is obstructed and fails to pour out its secretions. Discharge of pus means destruction of tissue, and it is the function and duty of the doctor to find out how extensive that destruction may be. Rectal symptoms must not be ignored or treated indifferently, however mild they may be. The real significance of every one must be determined before the patient is allowed to leave the office. The patient expects this of him. The doctor must not disappoint him if he expects to hold his confidence, respect, and patronage.

It is presumed that every surgeon be he specialist or not, is sufficiently familiar with the different positions patients may be placed in for rectal examination, so we pass to a few words of caution in regard to the methods of making that examination.

First, I will say, with regard to the use of the probe in exploring the sinus, that extreme gentleness is an absolute necessity.

The infliction of unnecessary pain must be avoided. The probe must be allowed to find its way without force because of the great danger of breaking down the granulations and subjecting the patient to infection by some of the ever present pathogenic bacteria. Any man can take up a probe and push it through an opening in some direction, but it takes an expert to make it follow the tract without the use of some force. In the great majority of cases it is better to give to the

probe a simple curvature before introducing it. Sometimes it will be necessary to produce a compound curve in order to follow the tract with perfect ease. Occasionally some advantage is gained by introducing the index finger into the rectum, but this should not be done before the probe has passed above the sphincters, because of the danger of disturbing the relation of the parts. Special probes are rarely necessary. The pure silver one can be bent to any desired angle and answers all practical purposes.

It should be remembered that, when the opening is situated in the anterior half segment of the anal ring, the sinus runs directly upward or upward and backward toward the sacrum. The slightly curved probe should enter it with perfect ease. When the opening is situated high up in the bowel some difficulty is often experienced in introducing the probe. Under these conditions the index finger must be the sole guide, and just here, let me say that a well trained, intelligent, index finger can not be over estimated. It should be made thoroughly acquainted with the normal density and mobilty of the mucous membrane and all its contiguous, and underlying structures. Abnormal conditions about the rectum can not be fully appreciated without it. It is frequently true that the opening can neither be seen nor felt: the cord-like, or pipestem-like induration must then be followed to its extremities by the finger, where the surface is searched with the probe for the opening.

The ordinary rectal speculum is of very little value in the examination of these cases. I rarely use one for this pupose. Much more can be seen through the tip of a well educated finger than through the best proctoscope. With this consideration and interpretation of the signs and symptoms, we pass to a brief consideration of the prognosis of fistula. In the great majority of cases recovery takes place sooner or later under appropriate treatment. Those which result from tuberculous abscess being the most tardy in healing. Where pulmonary or general tuberculosis exists the healing process may be delayed for months even under the most thorough treatment. In this class of cases the surgeon does well to be very guarded in the expression of his opinion as to the length of time it will require to effect a cure. Often, to the great disappointment of his patient, he will find that he has made it too short.

The question of treatment is one that occasionally puzzles the surgeon. Often conditions seem to indicate and justify one form of treatment when the results secured thereby cause him to wish he had chosen some other. The fact is that every case of fistula is a law unto itself in so far as remedial measures are concerned. No fixed rules can be laid down that will apply to every case. The nature of the case, and the patient's physical condition, and the doctor's experience must enable him to determine what course to pursue.

Under two heads palliative and surgical, may be included all the

methods of treatment known to proctologists. The first of these embraces all methods of treatment in which the knife is not used. They may consist of simple cleansing of the tract with sterile water, the injection of some medicinal agents, or the more radical means of cleansing the tract with the curette.

The injection into these tracts of solutions of bichloride of mercury, nitrate of silver, and ichthyol, and tincture of iodine has been tried with varying degrees of success. In properly selected cases there is no doubt about accomplishing good results from some of these injections. The method should not be invariably condemned because the advertising charlatan uses it, partly as a means of securing patients. Many of these victims have a "holy horror" of the knife and will not place themselves under the care of one who will not promise to treat them without it. Frequently, they will readily agree to submit to a form of treatment that causes them much more pain than the knife.

The desire of a large number of these patients to escape the knife put me to thinking, and following out a well established principle in surgery, I adopted what has proven to be a simple and reasonably satisfactory method of treating them. The two essential features of this method are *absolute cleanliness* of the sinus and *perfect rest* of the surrounding parts. No sinus will fill up with healthy granulations in the presence of multitudes of pathogenic bacteria. These must be removed, not only from the surface of the sinus but from the tissues which constitute its wall. Chemical agents which impair the vitality of the tissues, although capable of destroying the bacteria, and leave the surface covered with shreds will not accomplish the desired end. These devitalized shreds must come away and in order to do so a discharge from the tract must be continued.

A "surgically clean" canal must be secured before we can expect agglutination to occur however quiet the thoroughly coapted surfaces may be kept. Various means have been suggested for accomplishing this end, but the only satisfactory one I have found is the spiral-douche-curette. With this it is possible to go over every particle of surface without danger of penetrating the wall of the sinus.

The great flexibility of the curette allows it to readily conform to any irregularity in the shape of the canal. Multiple diverticula, if any, may be entered and cleansed before withdrawing it, the debris being washed out by a stream of flowing water. The entire interior of the canal wall is shaved off clean, and not left covered with hanging shreds of tissue. No infectious agents are left in it. The sinus *is "surgically clean"* and ready for the subsequent steps in the treatment, as follows:

A piece of heavy rubber drainage tubing, with lumen of one-fourth to three-eighths inch in diameter, and from four to six inches in length, is introduced into the rectum. About two inches of this

tube are left projecting from the anus. Around the portion within the bowel is carefully packed a sufficient amount of gauze, which has been previously saturated with warm sterile vaseline, to fill the rectal canal. Around the projecting end is wrapped sufficient gauze to make a roll one inch in thickness, and this is held in place by threads passed through from the inside of the tube. Gauze is now placed around the roll to support it, and the whole is held in position by a carefully adjusted T bandage. Perfect coaptation of the sinus wall is thus secured under pressure, and agglutination results in from three to five days.

The tube allows the escape of the gases—if necessary the escape of fecal matter—and the pressure from above, from below, and from within holds the previously divulsed sphincter in a condition of rest. The tolerance of the mucous membrane and sphincter is something remarkable. Sometimes it will remain in position for several days without exciting the least irritation. This mode of treatment is applicable to almost any type of fistula, except those which connect some other organ with the rectum.

Other methods of treatment, such as, *excision of the tract* with closure of the wound, and *laying open the tract* and treating as an open wound have their advantages in a certain class of cases. In fact, some of them can be treated successfully in no other way. This is particularly true of the internal incomplete type with the opening at the upper extremity. Cleaning it out through a new opening at the lower extremity has not been attended with success in my hands.

In regard to *incising the sphincter*, I would say that, it should *not* be done in any case where it can be avoided. If the mucous membrane has not been penetrated and the integrity of the sphincter remains unimpaired my rule is to make no incision through the muscle. Good drainage can be established and maintained without taking any chances on having a case of fecal incontinence to harrass the patient the remainder of his life.

Much more might be said upon the technique of the above mentioned and other operative procedures for the relief of fistula, but time and circumstances forbid.

DISCUSSION.

Dr. Stauffer: In the diagnosis the microscopic examination of the scrapings from every fistula is important, for we sometimes find tubercular infection where we least expect it. Sometimes we find here the first manifestation of tuberculosis. The method of treatment advocated is worth a trial in some cases for the experiment will do no harm.

Dr. Rollin H. Barnes: If there is any class of diseases that is neglected by the general practitioner it is rectal diseases. Dr. Stauffer has put none too much stress upon the failure in treatment by the general practitioner. I would not recommend ether as the general anesthetic because there is more straining and vomiting after ether than after chloroform. Sutures for internal hemorrhoids often prove unsuccessful for we have no means of pro-

tecting them from the secretions of the bowels. For that reason I favor the clamp and cautery in most cases. The number of cases that can be successfully treated by curetting is few for the tract is not usually straight. I heartily agree with the advice to let the sphincter muscle alone whenever possible. The cases where this is not possible are few. Dilatation of the sphincter and free drainage are the two points in the treatment of fistula. The trouble in most of these cases is an insufficient external opening for drainage. Another thing is the manner of placing the drain. It is very common to pack the gauze, which interferes with drainage. In most of these cases the tube drainage is probably better. Where you use the gauze put it in straight—don't double it up. There is a method I shall try in my next suitable case. Where the opening is large enough I don't see why we can not treat the internal opening with the Lembert suture as in any other part of the intestinal canal. With dilatation and proper drainage I think we could heal up these cases and save the sphincters.

Dr. V. P. Blair: A point that Dr. Stauffer dismissed with a few words might have received more attention, i. e., the clamp and cautery method. There are two entirely different methods. In one, the older, the whole mass is caught in the clamp and is burned off, causing much contraction. In the other operation you catch up the hemorrhoid and thrust the cautery deep into the hemorrhoid.

Dr. J. D. Potts: The clamp and cautery method is very imperfectly understood. The idea seems to prevail that this method embraces the taking up of the entire hemorrhoidal mass including all contiguous tissue. The correct method is to raise the mass, catch it with as little mucous membrane as possible, excise the larger portion and then cauterize the stump as thoroughly as possible. This is not applicable to those cases where the mass extends beyond the muco-cutaneous border. In this variety of hemorrhoid we have two types of epithelial cells, the squamous on the outside and columnar on the inside. When we make a scar that brings the columnar epithelium down where it does not belong, or the squamous epithelium up where it does not belong, we have a good field for malignancy. There is a form known as the thrombotic hemorrhoid from which the patient suffers more than from any other form. This results from constipation or pressure upon the vein which permits thrombis to form. They become so strangulated and the patient suffers intensely. He applies for treatment and is given belladonna or something of that sort and a fistula fissure, or ulcer is the end result. The flexible spiral curette will practically bend upon itself and still permit the water to flow through. In nine cases out of ten the fistula is large enough to admit a fair sized probe or curette and if not an opening is easily made by a crucial incision.

Dr. Stauffer, in closing: I did not mean to endorse palliative treatment where operative treatment was possible, but it is better than to have the patient go to one who does not know how to treat him. No intelligent man will treat a rectal disease any more than he would a disease of the throat, without making an examination. Ether has been considered the safer of the two anesthetics, the nausea being a secondary consideration. Dilating the sphincter causes the patient to take a deep breath and he gets more of the anesthetic than you expect; for this reason there are more deaths from the anesthetic in operations on the rectum than in any other operation. I would not think of using catgut in doing the Lanmgham operation. I use the large catgut in operating on the so-called mixed hemorrhoids. The point is to sacrifice as little integument as possible. Divide right at the muco-cutaneous line and then place your sutures by the Amyx, Earle, or any other approved

method and you will get perfect co-aptation. Scar tissue favors the malignant process at the pyloric end of the stomach, and it is equally true of the rectal region. I give neither purgatives nor opiates. If the intestinal canal is empty the patient can wait three or four days without food of any kind except liquid diet. If there is pain I give morphine hypodermically. If a purgative is necessary olive oil may be given.

ARTERIOSCLEROSIS.*

BY TINSLEY BROWN, M. D., HAMILTON, MO.

Arteriosclerosis is a degenerative process of the coats of the blood vessels, and the reference here pertains to the arteries.

This disease has been known for a long time and has been described by the old writers. It was referred to by Senac and Morgagni as an inflammatory process and was named Endo-arteritis Deformens.

This theory was accepted as the true cause by several pathologists, but by others it was considered as caused from some infectious disease.

On the other hand many writers considered that the sclerotic change came from some mechanical factor as high blood pressure following persistent contraction of the arterioles.

The other theory now coming in general acceptance is that the lessening of the resistance of the media of the vessels becoming weakened with lessening of the blood stream to compensate, there becomes a development of the subendothelial layer of the intema which restores normal relation between the arteries and their contents. Hence, the morbid anatomy is degeneration of the media with secondary compensatory thickening of the intema.

Arteriosclerosis may be local or it may be diffused. The former is the nodular, which has been described by Councilman. The patches are scattered along the inner surface. In the diffused form, the arterial wall is stiff and more or less dilated.

In old persons, the arteries are stiff, more or less tortuous and dilated. Closer examination reveals that the thickening of the intema is due to the connective tissue developing between the endothelium and underlying elastic tissue; afterward a degenerative change may take place in the newly formed connective tissue which consists of a hyaline transformation of the outer portion of the areas near the endothelium.

The areas of necrosis constitute the so called atherometous abscess. When these areas break into the lumen of the vessel, a depression or ulcer is left; these ulcers very often become a seat of thrombus or fill with a calcarious mass by the deposit of lime salts.

In the middle coat changes of a degenerative nature take place which leads to a weakening and dilatation of the artery and consequent thickening of the intima. The middle tunic becomes thinner in consequence of atrophy and degeneration of muscular fiber and more or less

*Read at the annual meeting, May, 1906.

destruction of the elastic element; it may disappear entirely and be replaced by connective tissue.

The change of arteriosclerosis is not uniform. The lumen of the small vessels may become narrow and blocked by thrombus while the large vessels as, for instance, the aorta, are apt to become dilated. As has been said before, the various parts of the arterial system are not equally involved in the sclerotic process. The arteries of the extremities are apt to become first affected.

Statistics show that the ulnar artery is affected in 94 per cent., the anterior tibial in 93 per cent., sub-clavian in 88 per cent., cerebral in 87 per cent. and so on.

The reason why some are more liable than others to be affected is hard to explain, but it should be remembered that those of more tortous course are more apt to become diseased.

Association with sclerotic changes in the vascular system, alteration of a similar nature in other organs may take place, viz., the heart, kidney and liver. In the senile form, the heart may become uncommonly small while in that of the young it may reach enormous proportions.

The myocardium is apt to show fibrous degeneration, the coronary arteries are apt to become affected or even occluded, the aortic valves sclerotic, opaque and incompetent.

The kidneys show in many cases microscopic changes. The etiology is somewhat obscure.

In former years, this change was supposed to be one of senility, but this is not the case, for many who die in advanced age show no such change. Of course it is found more often in advanced age, still those who are younger may be equally affected.

Those who do work that causes much exertion and great muscular strain are apt to become affected. Any thing which raises the arterial attention for a long time will bring about changes of this character.

The day laborers, blacksmiths, miners and woodmen are apt to develop arteriosclerosis at an early age. The vessels of the extremities are prone to be affected. The abuse of alcohol and syphilis are potent factors in the origin of the disease, the latter probably is the most important. Chronic lead poisoning and gout are recognized as potent causes; how they act in order to bring about this result is not clear, but probably through the raising of the blood pressure to overcome the peripheral resistance in the arterioles. The excessive use of tobacco is believed by some writers to cause arteriosclerosis and particularly in the coronary arteries.

Neurasthenics according to Romberg, are prone to arterial dengeneration, in his opinion, from the alteration in the blood pressure by their unstable condition. Those who are subject to migrains show a tortuous condition of the temporal artery on the side mostly affected.

Dyspeptics and those subject to disorders of digestion are apt to

be affected. I have noticed in making examinations of veterans of the civil war that they, especially those who have been affected with the scurvey and chronic diarrhea, were very apt to have this disease of the arteries. After ten days' experience as U. S. Pension Examiner, I am certain that at least 50 per cent. of those I examined were affected with arteriosclerosis. On the other hand, those who are high livers and lead a sedentary life are apt to have arteriosclerosis of the mesenteric artery and those who perform arduous mental work to have the cerebral arteries affected and are prone to die of apoplexy.

The cerebral arteries are poorly supported and have no investment or muscular support and are easily ruptured. It appears to me that I find more arteriosclerotic patients than I did in the early days of my practice, or it may be that I recognize them more readily.

The circulation of the deleterious substances in the blood undoubtedly causes high arterial blood tension. Some drugs we know do this. I see lately where the experiment of giving adrenal extract to guinea pigs in time produces changes in the large blood vessels analogous to arteriosclerosis found in man thus affected. The symptoms are latent so long as they are unrecognized and not very widely spread. When they do become manifest, the symptoms depend on the part affected. If it is in the arteries of the extremities, the manifestation is shown in the form of numbness and stiffness. If of the renal arteries, it is manifested by an inadequacy of the renal secretion.

The arteriosclerosis of renal arteries may be secondary to the interstitial nephritis. Many of these cases have myocarditis and failing heart power, and the intersticial nephritis so intimately blend with the heart trouble as to make it difficult to tell which organ is the more seriously involved. In all the cases the cardiac incompetence is apt to prove the more serious complication. The arteries of the smaller size become narrow and clogged and the heart becomes weak from overwork. When there is sclerosis of the arteries of the medulla, the bradycardia found in many cases is undoubtedly caused from this. I had a case under my care not long since in which the pulsations of the heart were most of the time from 36 to 42 per minute, which answered in symptoms to the disease known as Stokes-Adams disease. After being nearly eigtheen months thus affected, she died suddenly, as I suppose, from intercranial hemorrhage.

When the coronary arteries are affected it is not always easy to be certain of the diagnosis. This is the lesion probably in all cases of fatal angina pectoris.

The symptoms are so numerous as to preclude the possibility of giving them all in this paper. The prognosis depends entirely upon the extent of the vascular disturbance. The disease is undoubtedly incurable but much can be done to check the progress.

The treatment should be prophylactic, curative and symptomatic. The regulation of the diet, habits and hygienic surroundings may be

classed as of first importance in the prophylactic remedies. The curtive remedies are few, probably potassium iodide or sodium iodide are the most potent. The symptomatic remedies are the vasso-dilators such as nitroglycerine and soda nitrate. These are probably the most important of the symptomatic remedies.

Calomel purge is used by many in conjunction with jalap. I find much benefit by giving small and oft repeated doses.

It is impossible in this short paper to say very much that could be said on this most important disease that probably is the indirect cause of the death of more human beings than any other known disease.

INFANT MORTALITY AND INFANT FEEDING.*

BY H. M. MIXER, M. D., NEOSHO, MO.

Infancy ought to be the most healthful period in the whole course of human existence. The infant surrounded by everything an indulgent father's means, and a loving mother's care can devise and secure for its comfort, and well being, and safety—guarded by a mother-love which takes no account of fatigue, knows no relaxation nor intermission, and which would protect her offspring at the sacrifice of her own life,—fresh from the hand of Deity and corrupted by no vicious habits,—the infant so loved, so shielded, so protected, so uncontaminated, should be practically exempt from pain, and sickness, and death.

And yet, and yet, infant mortality is the scandal of civilization. Statistics show that about 50 per cent. of all children born into the world die under two years of age.

There must be a cause, a removable, a preventable cause, as I verily believe for this amazing mortality; and as sponsors for, and guardians of, the public health, it is the duty of physicians to seek out the cause and suggest, if possible apply, the remedy.

The bearing of children is the performance of a purely animal function, neither more or less.

Surround matrimony with all the safeguards you may; call it a civil contract and give it the protection of law; call it a sacrament and solemnize it with the rites of our holy religion; believe in it as the most binding of civil obligations, and the most sacred of religious duties; regard it as the unit of the race God-ordained in the garden of Eden, and coming down to us with all its prerogatives undimmed through the centuries, and it still remains true that its primal object is the perpetuation of the race, and that the function of re-production is common to us and to the lower orders of animal life, with substantially the same laws and limitations.

Asked when the education of a child should commence Emerson said "four hundred years before its birth." The preparation of a fath-

*Read before Newton County Medical Society, May 8, 1906.

er and mother to beget a child should begin at the same time. We pay too little attention to heredity. We give too little thought to physical proportions, physical perfection. We think too much about the cultivation of the head, and too little about the development of the body. A mother would almost be regarded as immodest, unchaste, who should talk about the physical proportions, the manly beauty, the perfection of form of the man to whom her daughter was to be married. We give time, and thought, and study, and pay money for blood, and breeding and pedigree, and perfection of form and style in the rearing of our animals, and breed our daughters to scrubs. Possibly it may not be unfortunate that all the progeny does not live to grow up. Infant mortality will be vastly reduced when we get better progenitors, better men and better women.

The proper limits of an article for an occasion of this kind precludes the possibility of entering upon a discussion of the infinite variety of causes which conspire to unfit a large per cent. of the men and women of to-day for the performance of the holy function of fatherhood and motherhood. It must suffice to seek to discover what can be done with the material which comes to our hand. I make no doubt the list should be largely increased of those to whom the mandate of the law forbids matrimony.

And now as to the birth of the baby.

It is not possible always to control the temperature of the room in which the baby is to be born; but when it is possible, the room should be warm, too warm for the comfort of the adults who occupy it. The sudden transition from a temperature of 98.5 degrees—mother's temperature—to the ordinary temperature of our living rooms—say 68 to 70 degrees—is a serious strain upon the vitality of the newly born infant, and should be avoided whenever practicable. The shock of this change of 28 or 30 degrees of temperature doubtless sounds the death knell of many of the newly born.

Having been born, the baby must be washed; and as it happens to all of us to meet people whose appearance, and odor as well, indicate that they have not had a bath since the mid-wife gave them one, it is probably proper to add that it should be quite thoroughly, though, of course, very gently and carefully done.

The time when it should be done is an open question and upon it competent authorities differ. The Germans have a fashion of smearing the infant with some bland unguent, wrapping it in a flannel blanket and laying it away in a warm room for several hours before washing it. Personally I think the practice a good one. It gives the child time to become accustomed to breathing, to the using of its own lungs to secure aeration of the blood. It furnishes the child's heart time to get in the way of carrying on its own independent circulation without aid from the mother. It gives time for all the vital functions to come into activity, and so makes the child stronger and better able to endure

the shock of the exposure and handling of its unaccustomed bath.

But whenever, and wherever, and however it is done, it should be done in a hot room, and, of course with warm water.

Having been rested, and washed and dressed, and kissed, though there need be no haste about it, the question of nourishment comes next in order.

Up to birth the foetus has been sustained, nourished entirely through its connection with the mother. Its stomach has played no part in the growth of the child. Nothing has ever been taken into its stomach.

It is axiomatic, goes without saying, that such a stomach should be treated gently, dealt with cautiously, guarded jealously. But lest mortals should be too dull to comprehend this truth the Deity has placed special emphasis upon it by putting into the breast of the mother, for several days, only a limited amount of milk specially prepared for this occasion. If God thundered the command from Sinai, or inscribed it on tables of stone, He could not say more plainly—Dont feed the baby. But in spite of this it is a fact that all over the world the ignorant old crones, who are always in evidence on such occasions and who call themselves sometimes nurses, and sometimes midwives, but who are always and every where nuisances, contrive to get into the stomach of the average newborn babe, within an hour of its birth, some form of dope, the abominations ranging up and down the scale all the way from Saffron tea to chamber lye. In this scandalous practice is often securely laid the foundation for puny infants, premature death or life-long suffering from dyspepsia within the first hour of the child's independent existence.

Three or four days after the birth of her baby the secretion of milk is fully established with the mother, and the amount normally secreted at this time is from three to four times what the child needs, or can possibly dispose of except in the way Nature has so wisely provided, alike for the safety of the mother and her offspring.

Just what degree of intelligence the new born baby possesses, just how much and what baby really knows, we have no means of measuring; but this much is certain, they all know how to suck, and have a voracious appetite, an appetite having no relation whatever to their needs for food, but given them solely and purely for the protection of the mother.

The lacteal secretion established, the mother's breasts fill with milk which would cause distress and breed disease if not removed, and so baby with its inordinate appetite, nurses an amount for which it has no need, and which would surely make it sick if retained in its stomach, but which it promptly rejects on being removed from the breast: nurses to protect the mother, vomits to protect itself.

This system of checks and balances, this adaptation of means to ends, is one of the wisest and most beautiful provisions of nature and

goes on unceasingly, though in a constantly diminishing ratio for the first five to seven months of infant life.

This is nature's way and takes place with all healthy infants, undisturbed by ignorant and officious meddling, almost with the regularity and certainty of the succession of day and night.

But it is meddled with. The stuffing, and gorging and poisoning which often I am tempted to say ordinarily, goes on before the secretion of milk is established, have so deranged the child's stomach, that while the voracious appetite remains, the power to reject the food it cannot use is lost. The milk is retained, the stomach has no power to digest it, and so it sours, putrifies and stinks, and generates poisonous gases, and goes along down the alimentary canal causing infinite agony to the child, and laying the foundation for an early death, or a life long struggle with disordered digestion. And here as elsewhere nature is remorseless in exacting the penalty for wrong doing; and, sadly be it said, the penalty is exacted from the innocent child instead of the ignorant nurse. It is always difficult, often impossible to restore this infantile stomach function which accommodates the needs of the child to the safety of the mother, when once it is destroyed.

About at this stage the physician is called in. The family is in trouble, and so is the doctor.

In my own practice, I have given more anxious thought, suffered more annoyance, done more preaching, and met with more failures in dealing with this condition of affairs than in the management of any other human ailment which has been brought under my treatment.

This, the commencement of infant life, is the commencement of the series of errors, crimes, I had almost said, which enter into the catalogue of causes which account for infant mortality.

But it is the commencement only. If the child lives, which is only problematical, and at any rate while it lives, it still has to struggle through the quicksands which ignorance, credulity, and doting indulgence plant in its pathway.

The infant still has a voracious appetite and will swallow greedily any thing put into its mouth. The anxious mother, her fool friends, the officious old women of the vicinage, the ignorant nurse, all are certain that the child is hungry and needs feeding, and from their stores of accumulated wisdom tell the mother just what to do,—just what to feed the child. Differing in everything else, they agree in this, that the mother does not have milk enough for her baby.

I presume it is the experience of you gentlemen of this society to meet this declaration at every stage of your professional journey. Certainly it was mine, and a more pernicious falsehood was never dinned into the ears of credulous motherhood.

It will bear repeating that the bearing and suckling of children is the performance of an animal function, and we, whose practice is largely in rural communities, and who are therefore familiar with

farmers, and farm life, and with the care of farm animals, know that the mother's milk is the only perfect food ever found for young animal life, and that practically it is always secreted in abundance. I was born on a farm and inherit a love for farm life, and have owned land and kept cows ever since I began to earn money; and I never heard of a cow which, in health, would not raise a splendid calf if the calf were given the whole of her milk; and so when I hear of the necessity of weaning an infant at ten days to four or five months old because the mother does not have nurse enough for it, I do not believe a word of the story, but put it down in my catalogue of inventions for the extermination of babies.

The subject is interminable, and my pen hesitates to call a halt, but this article is already too long and must be brought to a close.

When a child's stomach has been deranged by improper feeding, and all feeding during the first days and months of child life is improper, I know of no medicine which has the slightest tendency to restore the ability to reject—vomit—the surplus food it cannot digest. By limiting the time it is applied to the breast to five or six minutes, and protecting the mother by using a breast pump and wasting the surplus, we may sometimes get the child to vomiting again the superfluous milk, but not always. Besides it involves lots of trouble, it is always difficult to convince the mother and nurse of its necessity, and when applied ever so intelligently and industriously, it often fails, and the child goes on to its doom.

But there comes a time in child life when the breast milk is insufficient and when the baby must be fed.

When it is practicable a baby should always be nursed through its second summer; but of course, after it is seven or eight months old the insufficiency of the nurse must be supplemented by some sort of food.

The markets are full of prepared infant foods, and some of them have decided merit; but all of them are costly.

Where it can be obtained in its purity and freshness, cows milk will ordinarily be well tolerated, and is certainly the cheapest obtainable food.

As compared with breast milk it is richer in cheese, and deficient in sugar. Diluted and sweetened so as to make it approximate as nearly as possible to the milk supplied by the mother, it ordinarily fills the bill.

But whatever food is used, it should be commenced with infinite caution, a specific, a carefully measured amount should be given the child, and the stools examined to know if it is being digested. If undigested, curdled, sour milk is found in the stools, the amount given was too large, and must be reduced.

Food taken into the stomach digests or decays. If it digests, it nourishes, if it decays it poisons. Undigested, sour, putrid milk cannot for any length of time be permitted to pass along a child's bowels without generating disease.

In this connection it will bear repeating that a child's appetite is no guide whatever as to the amount it should be fed. Unlike breast milk, which a healthy child's stomach will reject if in excess of its wants, cows milk is never vomited, and should therefore, never be given in excess of the Child's actual needs.

Finally, and in conclusion, conscious that I have only meandered along the borders of this all important subject, I want to say that it is my unalterable belief that in improper feeding lies the appalling infant mortality which confronts us.

The ignorant nurse dopes the new-born babe. The officious old women induce the mother to feed the baby. The doting father gives the baby a little gravy and mashed potato, not because the child is hungry, but because it gratifies himself to see baby eat. Albeit potato is never digested and is rank poison in the infant's stomach. The older children, not to be outdone, divide their stores with the baby; and so the dreary catalogue goes on and on.

Years ago I was called to see a child of eighteen months suffering with violent convulsions. As soon as the baby could swallow I gave it a large dose of castor oil; and when the bowels moved, found in the stools a quantity of tea leaves, some dried peaches, a wad of chewing gum, and half a handful of bones of chickens feet which the mother had boiled and permitted the child to gnaw.

I was engaged in the active practice of my profession for fifty years, and during that time I am certain I did not have in my practice fifty infant deaths, from all causes combined, save only injudicious feeding.

I conclude as I commenced.—Infant mortality is the scandal of the age, and the opprobrium of our profession. I know that on this subject of infant feeding I am an extremist.— a crank if you please: but my experience and observation have made me what I am; and in the production of this article I have held myself rigidly in check lest I should violate the proprieties in the expression of my horror at the ignorant and remorseless destruction of infantile life.

Our cemeteries are everywhere thickly strewn with the graves of infants untimely taken off, and instead of the pitiful and pathetic inscriptions which tell of mysterious dispensations of Providence, desolate households, and parental agony, there should be chiseled on the marble slab which marks their final resting place—*Slaughtered with a Tea Spoon.*

Neosho, Missouri.

A METHOD OF OPERATING IN INGUINAL AND FEMORAL HERNIA WHEN COMPLICATED BY ABSCESSES.*

BY HERMAN E. PEARSE, KANSAS CITY, MO.

Abscess complicating hernia whether inguinal, femoral, ventral or umbilical, may arise from several causes and accompany several conditions; but is usually due to prolonged efforts at reduction and long delay.

If the hernial sac is opened in the usual manner the pus is encountered before the peritoneum is entered. The first step in the inflammation seals the opening into the general cavity and the exuded serum in the hernial sac is quickly converted into pus. Could the incision be made into this and through it into the general peritoneal cavity a peritonitis is almost sure to follow the opening of the ring and the procedure for the release of the gut or omentum, for it is only in case of strangulation or incarceration that I have observed this complication of *abscess*. To avoid this I have upon three occasions made use of the following procedure:

The abdomen is cleaned as in laparotomy and the surgeon and his assistants are prepared as for abdominal operations not complicated with pus. The abdomen is opened directly above the hernia, if inguinal or femoral; beside of it if ventral or post-operative, and either below or above if umbilical. With the walls of the abdomen well retracted it is possible to see the condition of the structures entering the ring and this from the abdominal side. If it is omentum that is involved the mass can be ligated at the entrance to the ring. In any case, sponges and gauze pads are carefully packed about the ring thus shutting off the abdomen securely from infection.

The operator now turns his attention to the abscess.

The hernial sac is now opened by a small incision only large enough to allow inspection and drainage. The pus is removed and the cavity flushed with one-half of 1 per cent. formalin solution. The edges of the abdominal incision are now protected by sponges. The ring is now opened and the inflamed bowel drawn into the abdominal cavity upon the sponges fixed to received it. If it be omentum it is not withdrawn but ligated and cut off and the end removed through the hernial incision. The ring is now firmly closed from within the abdomen and covered by a second layer of peritoneal sutures. The abdominal wound is closed whenever the structures concerned in the hernia are properly treated, cleaned and prepared for recovery within the abdomen, and the protective sponges removed. The external wound and hernial cavity is best packed with gauze and forced to heal by granulation.

*Read at the annual meeting, May, 1906.

The advantages of this procedure are:

1. The abdomen is opened in a perfectly clean aseptic manner and properly prepared for the reception of infected structures.

2. The clean bowel is not brought into the infected cavity.

3. The infected bowel is cleaned to a point where the peritoneum can take care of it before it is brought into the peritoneal cavity.

4. Tedious healing is certain in these cases; this procedure reduces it to the shortest possible time.

5. There is no mortality, while the mortality is high by the ordinary method when pus occupies the hernial sac.

WHEN IS OPERATIVE INTERFERENCE CONTRAINDICATED.*

BY F. H. BRUNIG, M. D., PH. G., KANSAS CITY, MO.

PART OF A SYMPOSIUM ON APPENDICITIS.

The surgery of the appendix has forged ahead so rapidly, ly, that it is far in advance of that of other abdominal organs. The questions remaining unsettled pertain less to the surgical technic or methods, than to the disease conditions present, that may or may not make immediate operation necessary. Is the patient's interest best subserved by operating at once when the diagnosis is made or by waiting to some future time? In America this problem has yet to be solved. In Europe much has been done toward the classification of appendicitis and operative or non-operative treatment is employed according to such classfication.

Treves gives statistics covering also his own experience, and places the general mortality of appendicitis at 5 per centum; the mortality following operations in the interval, or quiescent stage at less than 1 per centum and that during the acute stage at 20 per centum. These statistics include in the acute stage operations, those done in the first twenty-four hours, or before adhesions have formed and which should probably he classified with the interval operations because of their equally low mortality rate. If we would consider them as in one class, those operations done after the first twenty-four hours and during the remainder of the acute stage, we would be confronted by a much higher death rate. The reason for this is clear when we remember the pathological and physiological processes going on in the abdominal cavity at this time.

Upon the one hand is the infection encroaching farther and farther on the peritoneal surface, with a correspondingly rapid extension of the peritonitis. Upon the other hand is nature's protective process: lymph is thrown out, which coagulates and binds adjacent surfaces together, thus limiting the disease process to a circumscribed

*Read before the Jackson County Medical Society.

area and preventing further infection of the peritoneal cavity. Operations at this time would necessarily tend to separate adhered surfaces and remove the exudate necessary to form adhesions, making possible a further infection of the peritoneum. Many authorities, mindful of this danger do not operate at this stage of the disease, unless an emergency arises, but instead, employ measures calculated to promote the protective process under way, the patient's condition being carefully watched.

Ochsner has systemized the management of this stage of appendicitis and has brought forward a method of treatment entirely original with him. The patient's position in bed is made favorable for the gravitating of fluids towards the pelvis. He holds as most important the inhibiting of paristalsis, which is accomplished by allowing no food to enter the stomach. Food is given every 4 hours in the form of nutrient enemata consisting of three ounces normal salt solution, and 1 oz. predigested food. Water in very small quantities is allowed at times, but if vomiting or pain is present the patient quenches his thirst by rinsing his mouth with cold water, and small enemata are given. Vomiting and gaseous distension are treated by giving small enemata and by stomach lavage. Pain requires no special treatment; caused by paristalsis, it subsides when the latter is controlled. The treatment is continued until the pulse and temperature are normal. If an abscess forms it is drained.

The author states he has not seen a death where this treatment was begun early, and that the mortality for this stage of the disease is reduced to 4 per cent. We should not, however, be guided in any case by fixed rules or methods of treatment. No matter what therapeutic measures are employed we must be constantly on our guard and ready to deal with changed conditions, which if not observed in time would prove disastrous. In such cases the quantity or virulence of the infectious material is so great that the protective processes are too slow or insufficient to check its rapid progress into the peritoneal cavity. The much dreaded "gangrenous appendix" and "perforated appendix" would be quite harmless if strong adhesions were present to protect the peritoneal cavity. It is not unusual to find the appendix gangrenous and perforated in the cavity of an appendicular abscess. These terms simply mean that the infection reaches the peritoneal cavity rapidly for reasons already stated. For the same reasons this grave condition is met with in the first three or fours days of the disease. Later, an extensive septic peritonitis could be caused by the spontaneous rupture of an abscess, but it is hoped that we have passed that epoch in the history of appendicitis which could make such an accident possible.

A case in the first few days of an acute attack, receiving expectant treatment, may have shown no alarming signs or symptoms, when suddenly the pulse becomes rapid; the abdomen is distended,

tense and painful. The face has changed its expression and we have a clinical picture of diffuse, or fulminating peritonitis. In other cases the progress of the infection to a dangerous state may be so gradual and insidious that the highest diagnostic skill is required to understand the patient's true condition. The pulse rate is often the only index as to the course the disease is taking. The infection may find its way through the appendix posteriorly and form a retro-peritoneal abscess. Probably no marked signs of peritonitis would be present, but instead we would have early symptoms of sepsis—chills, sweats, and a rapid pulse.

If the case comes under observation in the first twenty-four to thirty-six hours of the acute attack, operation should be advised. Later, after the time for the early operation has passed, and during the remainder of the acute stage, treatment favoring the formation of adhesions and rest to the inflamed tissues, should be employed. Operation should be postponed, if the patient's condition admits, until the acute attack has terminated in a chronic, or recurrent appendicitis, or in the formation of an abscess. Each of these resultant conditions requires operation. The abscess should be dealt with at once, and the other operation done after the patient has regained sufficient vitality.

There is a small class of cases where an abscess his formed, in which it would seem justifiable to postpone operation for a short time. The cases in mind are those suffering from some intercurrent disease —tuberculosis or other debilitating malady and reduced by an acute attack of appendicitis to such a state of extreme weakness, that an anesthetic would seem dangerous. If such patients have regained their appetite and are gaining strength, and if the abscess is not increasing in size or producing much tension, the danger of waiting a few days would probably be less than to resort to operation at once.

The results obtained from the treatment of appendicitis in general, depend much upon the ability of the attendant to interpret correctly the different signs and symptoms present. No one is competent to decide when to operate and when not to operate who has not studied carefully a number of cases from beginning to end. The general practitioner, as well as the surgeon, should possess a clear knowledge of this disease, for upon him falls the responsibility of deciding this important question in a majority of cases.

310 Altman Bldg.

THE COUNTRY DOCTOR AND APPENDICITIS.*

BY M. P. SHY, M. D., KNOB NOSTER, MO.

A sufficient apology for the introduction of so time-worn a subject, is found in the startling prevalence of the condition, and the unnecessarily high mortality rate. So long as the daily press continues to record frequent deaths from a disease which at some period of its

*Read at the annual meeting, Jefferson City, May, 1906.

course is recognized by the medical profession to be distinctly curable, so long will there remain a justification for its most thoughtful and oft-repeated consideration.

Nearly all of the literature on this subject is written by physicians and surgeons that live in the city who have the advantage of hospitals and trained nurses and trained help. But we poor country physicians, and I will not say surgeons, for a man who does as little surgery as we country doctors do could hardly be called a surgeon, have no such advantages. But poorly equipped as we are, we are often called upon to treat and even operate on these cases without a hospital, without a trained nurse and even without trained help. I say without trained help because each time we have different help to the case preceding and no man can operate as well with different anesthetists, different assistants and different would-be nurses as he who has the same help each time, or at least help that is accustomed to assisting in such work. I have operated on quite a number of these cases in the country and never have I had the same help twice. I simply speak of these things to show you the disadvantages of practicing in the country compared to the city. You may ask the question why we do not send our cases to the city to a hospital with all of its advantages? The answer is because circumstances forbid. The family is too poor, or it is a pus case demanding immediate attention, one that would be dangerous to move for the moving and jarring would in all probability cause a rupture of the adhesions and the wall that nature had so wisely thrown around this mischievous little organ, a general septic peritonitis following, and then we can guess what is apt to follow next. It is the pus cases that I have especial reference to in this article, for the recurring form can be sent to the hospital.

We all agree. (1) That appendicitis is a surgical disease. (2) That the surgeon should be called as soon as the diagnosis is made and that the future treatment should be left to him, (when it is possible to have a surgeon).

There are some points in appendicitis that surgeons are well agreed upon. (a) The early operation; the preponderance of evidence is in favor of operating within the first twenty-four or thirty-six hours of the on-set of a pronounced primary attack. It is generally conceded that during this period of time the pathology is confined to the appendix. This is probably true in most instances, and yet numerous exceptions to his rule are recorded, perforation and infection to the peritoneum occurring within this period. So that a fixed rule, or the dictum of operating within the first twenty-four or thirty-six hours should be qualified. For should perforation and infection to the peritoneum have occurred, the question at once presents itself as to the advisability of immediate operation, or delayed methods, points of procedure in which surgeons are still at variance.

It is utterly impossible for any one to predict the course that any

case of appendicitis may pursue. Whether the appendix will perforate, become gangrenous, or will be walled in by adhesions, the most conservative treatment is unquestionably the early operation. However a large number of acute cases in the country are not seen by a surgeon at all unless they pass into a chronic or suppurative form. The treatment will depend on the conditions present. To recommend the attempted tiding of all the patients through the primary attack regardless of existent pathology, by any method or methods of treatment, would be disastrous. Fixed rules in the treatment of appendicitis are impracticable. There is no period from the onset of an attack of appendicitis to its termination where the surgeon should be governed by anything but the conditions existing in this individual case.

Septic peritonitis is the most important and frequent complication met with. It may vary in degree from a circumscribed area in the right iliac fossa to involving the whole peritoneum. The mortality by any of the methods that have as yet been adopted in cases of general septic peritonitis has been nearly one hundred per cent. There are those who practice the radical method of removing the appendix, washing out the abdominal cavity with normal salt solution or closing without drainage. While it is still the practice to do the radical operation and institute drainage, at the present time from a limited experience with the method I am in favor of the so-called starvation treatment of Ochsner. I believe that in cases of appendicitis seen too late for the early operation, where there is evidently a developing peritonitis, as well as cases where there is a pronounced general peritonitis, such a plan of treatment offers more than operative measures. Operative interference in dealing with a progressive peritonitis often disseminates the infection by breaking down nature's wall of plastic lymph, besides the addition of shock to a system already greatly burdened which must necessarily lessen resistance.

From a reasonable experience and from what I have observed in the practice of others I shall formulate the following conclusions:

(1) The early operation should be advised in every pronounced attack of appendicitis.

(2) In cases seen too late for early operation the symptoms should be carefully watched; the blood count should be made if possible; after an analysis of the symptoms and conditions present the surgeon must decide as to the advisability of operation, or the adoption of medical means; repeated examination should be made frequently, to ascertain if there is evidence from the symptoms present of increasing pathology.

(3) In cases where there is a progressive peritonitis the Ochsner method of treatment, until the acute symptoms have subsided, I believe to be the most promising, (a) In cases where general septic peritonitis exists, the operative treatment is a failure. I believe the Ochsner method of treatment will lessen a little our mortality rate, which is nearly one hundred per cent. from operation.

THE ETIOLOGY AND CURE OF HYSTERIA.*

BY F. WALTER, M. D., PERRY, MO.

During the past ten years, I have treated the more rebellious cases of hysteria, such as occur in a general practice, with uniform success by the following method.

From the dejections of the hog a colony of the colon bacillus was isolated, and massive cultures grown from this, potatoes generally being used for the purpose. When the growth was well matured it was scraped off and mixed with a quantity of wheat flour sufficient to take up the moisture. This put into No. 1 caps, was administered every four hours, the cure being completed by the end of the third day.

The above was true for all those cases of hysteria for which no obvious cause could be assigned. This method of treatment is not applicable for the relief of hysterical manifestations purely secondary, neither may we expect benefit when given to patients who suffer the results of an acute attack after the latter has passed. I refer especially to paralyses. Given to all others it has never disappointed.

These observations open the door, and give us a view of the pathology of this obscure affliction. Colon bacilli exist in the intestinal tract of every case of hysteria. Inasmuch as a cure results by the 4th day after feeding the patient apparently the same microorganism, we can but conclude that the primary type had become toxic, being in the process of cure diplaced or crowded out by a harmless variety.

It yet remains by cultural methods to establish the deviation in type undergone by the colon bacillus, when it becomes pathogenic for hysteria. It will no doubt in the future be possible the same as has been the case in differentiating the typhoid bacillus from the colon bacillus which it so closely resembles. Aside from questions of this nature the subject is replete with interest for the neurologist and family physician, from the standpoint of the certain results which may confidently be expected in this bothersome class of patients.

I have briefly brought this subject before the society trusting it will receive that degree of investigation which it obviously merits.

*Read at the annual meeting, May, 1906.

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Missouri State Medical Association

The Official Organ of the State Association and Affiliated County Societies.
Published Monthly under the supervision of the Publishing Committee

ADDRESS ALL COMMUNICATIONS TO 534 NORTH VANDEVENTER AVENUE, ST. LOUIS.

Volume III. JANUARY, 1907. Number 7

E. J. GOODWIN, M. D., Editor.

Publication Committee:
C. M. NICHOLSON, WALTER B. DORSETT. B. M. HYPES. W. G. MOORE.

EDITORIAL.

NEW LEGISLATION.

At the meeting of the State Board of Health in St. Louis on December 10th the recommendations of the Missouri State Medical Association relative to bills to be introduced in the Legislature were considered in detail.

Some changes were made in the medical Practice Act. Among these was the incorporation in the bill of the standard minimum requirements for education for entrance upon the study of medicine as adopted by the State Medical Association. The proposed draft of amendment to the law touching criminal abortion was approved, and its adoption recommended. This provides for the punishment of any person adjudged guilty of criminal abortion whereby the death of the woman or any quick child ensue, of manslaughter in the second degree, and in case no death ensue following such attempt of criminal abortion the person shall be adjudged guilty of the felony of abortion, and upon conviction shall be punished by imprisonment in the penitentiary. The full text of the proposed amendment was published in the December number of the Journal.

An important feature of the bill was the adoption of the recommendations of the Bureau of the Census of the United States Government, in so far as they are applicable to this State, relative to the collection and preservation of vital and mortuary statistics.

The Board approved the Pure Food Bill to be introduced by the United Pure Food Commission.

Dr. Guthrie McConnell, Bacteriologist for the Board, presented a proposition for the establishment of stations throughout the state for the distribution of diphtheria antitoxin free to indigent persons in a manner similar to that in vogue in the State of Pennsylvania. He

stated that the Loederle Laboratories of New York were willing to establish 120 stations, furnish a certain number of antitoxin tubes, supply blanks for record of cases, for a primary outlay of $1,250.00.

The plan was discussed by the members of the Board and favorably received, but no definite conclusion was reached or recommendation adopted.

THE PROGRAM.

A number of county societies have appointed members to read papers at the next annual meeting. The program committee is anxious to receive the titles of these papers as soon as possible in order to publish them in the preliminary program. We hope, therefore, that the essayists will communicate with the committee and announce the titles of their papers.

We want to urge that all societies take action at their next meetings and appoint a member or members to represent them on the program of the annual meeting. The preliminary program will be published in the February issue of the JOURNAL and this program should announce as many papers as possible with titles and authors.

If a sufficient number of papers are promised the meeting will be divided into three sections, a medical section, a surgical section and a section on diseases of the eye, ear, nose and throat.

The committee is anxious to present a program exceeding in interest and diversity of subjects that of any preceding meeting. Our membership has increased almost 25 per cent. in the last eight months. The county societies are doing splendid work in their meetings. A very general spirit of enthusiasm in the aims and objects of our organization prevails. Present indications point to a program for 1907 of greater scientific interest, more general application and of higher practical value than that of any previous meeting.

Here again we realize that co-operation is the key-note of success. The committee is powerless if it does not have the assistance, support and cooperation of the county societies. Therefore we again urge that every county society not now represented on the program take action at its next meeting and appoint a member to read a paper at the annual meeting, sending the title of the paper and name of the author to the committee as soon as possible.

ANOTHER STEP.

The crusade against objectionable advertisements in newspapers has been strengthened by a decision in the Court of Criminal Correction, St. Louis.

The cause was instituted through Mr. I. V. Barth, counsel for the St. Louis Medical Society. The case was conducted as a special pro-

secution brought against the St. Louis World Publishing Company, as a test case for all the newspapers to determine the legality of the city ordinance forbidding advertisements in their nature obscene.

The defense raised the question as to the constitutionality of the ordinance and the power of the city of St. Louis under its charter to enact such regulation.

It was decided by the Court, Judge Hiram Moore presiding, that the ordinance was constitutional and that the city had the power to enact same, fining the defendant $50.00, which was the amount imposed by Judge Tracy in the police court.

Counsel for the defense at once took steps for appeal to the Supreme Court, where the case now rests.

CHRISTIAN COUNTY ORGANIZED.

Through the efforts of Dr. T. A. Coffelt, Councilor of the twenty-fifth district, Christian County Medical Society has been organized and affiliated with the State Association. The first meeting was held at Ozark on December 28th with ten charter members. The following officers were elected: President, J. C. Young, Ozark; vice-president, Fred H. Brown, Billings; secretary, J. A. Roberson, Ozark; treasurer, J. W. Bruton, Ozark.

We welcome Christian County Medical Society to our membership and we congratulate the physicians in that section in having accomplished this organization. The benefits of membership in a local representative County Society will soon be apparent to every member; affiliation with the State organization will add strength and power to that body and at the same time enlarge the field of influence of every member from Christian County. We shall look for interesting reports from Christian County Medical Society and trust that every member will take an active, earnest part in all the meetings.

LIFE INSURANCE EXAMINATIONS—$5.00.

We, the undersigned practicing physicians of Harrisonville, Mo., hereby enter into and bind ourselves to the following agreement, to wit: That after January 1, 1907, we will not examine applicants for "old line insurance companies" for less than $5.00 for each examination.

J. S. Triplett, M. D.
M. P. Overholser, M. D.
A. R. Elder, M. D.
H. S. Crawford, M. D.
Dan'l W. Conger, M. D.
H. G. May, M. D.

Following is a list of the new members admitted from August 1st to December 31st.

ADAIR COUNTY.

Barnes, F. M.....Brasher
Duffie, W. M.....Millard
Hall, W. S.....Novinger
Jurgens, L. C.....Kirksville
McConnell, J. L.....Collinsville
Martin, W. W.....Sperry
Munn, W. E.....Pure Air, R. F. D.
Noe, L. .....Collinsville
Nunn, J. C.....Novinger
Sparling, G. A.....Kirksville
Williams, W. .....Kirksville

AUDRIAN COUNTY.

Rodes, N. R.....Mexico
Toalson, G. F.....Mexico

BATES COUNTY.

Lane, G. G.....Sprague
Powers, C. R.....Amoret
Spark, E. E.....Amsterdam
Williams, J. H.....Hume

BENTON COUNTY.

Carl, C. A.....Cross Timbers
Dillon, Marion .....Fairfield

BOONE COUNTY.

Bilden, W. E.....Columbia
Lewis, M. D.....Columbia
Riggs, John Max.....Columbia
Robertson, R. R.....Columbia
Kampschmidt, A. W.....Columbia

BUCHANAN COUNTY.

Flynn, J. H.....Ilwaco, Wash.
Long, Levi S.....St. Joseph
Stamey, Thos. .....St. Joseph

CALLAWAY COUNTY.

Evans, E. E.....Fulton
Furguson, A. D.....Auxvasse
Owens, H. I.....Fulton
Williamson, W. H.....Wainright

CASS COUNTY.

Burney, R. H.....Freeman
Conger, D. W.....Harrisonville
Earnsworth, A. D.....Drexel
Hammond, M. .....Raymore
Palmer, W. C.....Dayton
Rhoads, M. H.....Austin
Smith, A. M.....Pleasant Hill
Tout, B. B.....Archie

CHARITON COUNTY.

Banning, T. J.....Salisbury
Brummall, J. D.....Salisbury
Dewey, W. T.....Keytesville
Epperly, R. G.....Prairie Hill
Ewen, Oliver.. .....Shanondale
Hardy, G. W.....Sumner
Hawkins, G. W.....Triplett
Lawhorn, H. W.....Forest Green
Todd, W. T.....Forest Green

CLARK COUNTY.

Callihan, R. G.....Luray
Crumley, A. C.....Wyaconda
Geeslin, P. A.....Luray
Hinson, C. A.....Revere
Haase, Freeman .....Revere
Reese, H. S.....Wayland
Rebo, T. A. S.....Alexandria
Young, J. A.....Wyaconda

COOPER COUNTY.

Barnes, W. S.....Pilot Grove
Barnes, H. T.....Pilot Grove
Pendleton, T. O.....Pilot Grove

DAVIESS COUNTY.

Henry. A. M.....Pattonsburg
Jarrett, S. S.....Pattonsburg

DeKALB COUNTY.

Clark, W. J.....Maysville
Evans, R. L. A.....Amity
Lee, L. E.....Weatherby
Perkins, O. L.....Union Star
Quinn, J. C.....Clarksville
Richey, L. A.....Fairport
Stronp, E. R.....Weatherby
Yeater, H. P.....Maysville

FRANKLIN COUNTY.

Mankopf, B. E.....New Haven
Smith, A. A.....Pacific

GASCONADE—MARIES—OSAGE COUNTY.

Byler, Wm. F.....Koeltztown
Jose, J. E.....Belle
Neeley, J. E.....Vancleve

GENTRY COUNTY.

Conrad, J. W.....Albany
Landis, H. B.....King City
Martin, W. J.....Albany
Patton, Hugh J.....McFall
Patton, Chas. O.....McFall

HENRY COUNTY.

Bradshaw, J. T.....Montrose
Bronaugh, J. H.....Calhoun
Strieby, U. G.....Brownington
Taylor, C. D.....Brownington
Wilson, J. S.....Deepwater

HOWARD COUNTY.

Champion, J. R.....Hillsdale
Drake, C. F.....Boonesboro
Fleet, T. B.....New Franklin
Givens, H. K.....Fayette

Hume, J. V.....Armstrong
Hawkins. W. R.....Glasgow
Jorden, J. E.....New Franklin
Lewis, C. O.....Fayette
Lee, C. H.....Fayette
Moore, A. W.....Fayette
McGee, C. P.....Fayette
Smith, N. E.....Fayette
Thompson, W. S.....Armstrong
Watts, C. W.....Fayette
Wright, U. S.....Fayette
White, J. A.....New Franklin
Burgwin, A. B.....Fayette
Richards, C. F.....Fayette
Halsey, F. J.....Franklin

JEFFERSON COUNTY.

Hauck, Saml. W.....Kimmswick
Kirk, Wm. J. F.....Kimmswick
Long, F. L.....DeSoto
Tidwell, J. W.....DeSoto

JOHNSON COUNTY.

Martin, W. L.....Chilhowee
Raines. N. J.....Knobnoster
Howard, T. S.....Chilhowee

KNOX COUNTY.

Humphrey, H. M.....Locust Hill
Haden, J. W.....Plevna
Humphrey, B. F.....Burdland
Morris, W. J.....Edina
McReynolds, U. R.....Knox City
Pierce, Donn .....Neward
Wilsey, A. R.....Hurdland

LAWRENCE-STONE COUNTY.

Clark. H. Ross.....Pierce City
Doggett, C. R.....Crain
Freeland, P. D.....Pierce City
Gum, L. G.....Stinson
Harding, D. E.....Aurora
Loveland, W. S.....Verona
Miller, Thos. D.....Aurora
Rice, Marion .....Scotts City
Schumate, L. St. Clair.....Reeds Springs
Stevenson, F. S.....Aurora

LINCOLN COUNTY.

Bailey, S. M.....Elsberry
Diggs, J. .....Hawk Point
Keeling, F. U.....Elsberry
Knox, J. A.....Whiteside
Powell, C. E.....Elsberry
Prewitt, G. E.....Hawk Point
Stuckert, Otto .....Whiteside

LINN COUNTY.

Perrin, J. H.....Marceline
Knott, A. W.....Marceline

MARION COUNTY.

Paxton, C. E.....Hannibal
Ferrell, Chas. O.....Hannibal
Roselle, T. A.....Palmyra

MERCER COUNTY.

Ewing, E. W.....Modena
Pickett, C. P.....Mercer
Powell, B. S.....Mercer
Oyler, H. W.....Millgrove
Stacy, E. W.....Prinston

MILLER COUNTY.

Bennage, J. L.....Iberia

MISSISSIPPI COUNTY.

Finley, F. L.....Anniston
Vernon, F. S.....Farmington
Willis, Albert .....Birdspoint

PETTIS COUNTY.

Bronson, I. T.....Sedalia
Heaton, A. H.....Sedalia
Handley, Walter E.....Sedalia
Nasse, E. .....Sedalia
Walker, W. E. L.....Lamonte

PIKE COUNTY.

Biggs, M. O.....Bowling Green
Byrns, R. W.....Frankford
Barnett, D. E.....New Hartford
Bankhead, J. E.....Clarksville
Bartlett, J. M.....Clarksville
Bartlett, E. M.....Clarksville
Bankhead, C. L.....Paynesville
Dreyfus, J. W.....Louisiana
Davis, J. D.....Louisiana
Hetherlin, T. G.....Louisiana
Hereford, R. G.....Louisiana
Hardin, Rufus .....Louisiana
Kennedy, J. J.....Frankford
Pollard, W. H.....Eolia
Pearson, D. M.....Louisiana
Smith, C. A.....Annada
Treadway, W. W.....Turpin
Unsell, J. B.....Eolia
Walters, W. T.....Bowling Green

RANDOLPH COUNTY.

Ash, O. O.....Moberly
Barnhart, D. A.....Huntsville
Dutton, C. K.....Moberly
Howery, J. A.....Clifton Hill
Mitchell, R. A.....Clark
Selby, W. H.....Moberly
Taylor, J. W.....Huntsville
Terrell, W. R.....Clifton Hill
Toules, S. P.....Jacksonville

SALINE COUNTY.

Lawless, C. L.....Napton
Davidson, J. H.....Little Rock

ST. CHARLES COUNTY.

Edwards, J. C.....O'Fallon
Kraft, Albert J.....Augusta
Rickhoff, H. J.....Augusta
Sandfos, F.....Portage Des Sioux
Wiegers, T. L.....Flint Hill

ST. FRANCOIS COUNTY.

Appleberg, Ruben .....Leadwood

English, J. H.....Farmington
Flemming, Chas. R.....Farmington
Lister, R. B.....Desloge
McEwen, G. A.....Farmington
McCormick, E. C.....Farmington
McKenzie, D. H.....Leadwood
Reese, W. C.....Elvins
Williams, G. B.....Flat River

ST. LOUIS, CITY.

Barker, S. J.....St. Louis
Barnes, A. S.....St. Louis
Baumgartner, C.....St. Louis
Bewig, H. W.....St. Louis
Bles, V. O.....St. Louis
Beyer, A. S.....St. Louis
Brandenberger, T. A.....St. Louis
Broderick, J. K.....St. Louis
Buchanan, J. M.....St. Louis
Byrd, R. L.....St. Louis
Calfass, W. F.....St. Louis
Connolly, P. D.....St. Louis
Cook, C. E.....St. Louis
Cooney, D. C.....St Louis
Dorsett, E. Lee.....St. Louis
Ehrhardt, R. T.....St. Louis
Fienup, T. F.....St. Louis
Fischer, J. A.....St. Louis
Fries, W. A.....St. Louis
Gettys, H.....St. Louis
Golland, M.....St. Louis
Gordon, F. N.....St. Louis
Harman, M. F.....St. Louis
Hartwig, O. A.....St. Louis
Houwink, J. J.....St. Louis
Huber, J. B.....St. Louis
Johnson, W. L.....St. Louis
Kimbrough, J. S.....St. Louis
Koch, J. V.....St. Louis
Koontz, C. J.....St. Louis
Leavy, C. A.....St. Louis
Luedde, W. H.....St. Louis
Lyon, H. N.....St. Louis
Marchildon, J. W.....St. Louis
May, A.....St. Louis
Max, C. O.....St. Louis
Miller, R. C. M.....St. Louis
Moeller, C. E.....St. Louis
Mueller, G. L.....St. Louis
Nash, W. H.....St. Louis
Nicks, H. G.....St. Louis
O'Bannon, R. W.....St. Louis
Parks, G. M.....St. Louis
Pfingsten, C. F.....St. Louis
Potter, P.....St. Louis
Rotter, C. F.....St. Louis
Rush, W. M.....St. Louis
Rusk, E.....St. Louis
Russler, J. J.....St. Louis
Sante, A. H.....St. Louis
Say, W. J.....St. Louis
Schulz, E.....St. Louis
Schulz, H. W.....St. Louis
Senseney, E. M.....St. Louis
Shapre, N. W.....St. Louis
Sievung, G. W.....St. Louis
Spain, K. C.....St. Louis
Spencer, S.....St. Louis
Sutter, J. S.....St. Louis
Thumser, L.....St. Louis
Todd, D. C.....St. Louis
Vogt, G. W.....St. Louis
Vosberg, C. A.....St. Louis
Wells, H. P.....St. Louis
Wilson, A.....St. Louis

SCHUYLER COUNTY.

Justice, W. H.....Lancaster
Keller, J. H.....Glenwood
Rambo, J. H.....Glenwood

SCOTLAND COUNTY.

Foster, G. E.....Memphis
Petty, J. W.....Rutledge
Shacklett, J. A.....Rutledge

SCOTT COUNTY.

Blackledge, Hugh T.....Commerce
Cline, J. L.....Vanduser
Ogilvie, Fred L.....Blodgelt
Miller, T. V.....Sikeston
Yount, H. J.....Sikeston

SHELBY COUNTY.

Durham, U. S.....Clarence
Daniel, J. R.....Clarence

STODDARD COUNTY.

Bilbrey, F. H.....Pruxico
Brandon, J. P.....Essex
Caldwell, W. C.....Essex
Evans, S. M.....Bloomfield
Hill, A. D.....Dexter
Slayden, J. L.....Dexter

SULLIVAN COUNTY.

Bowers, H. E.....Osgood
Bradley, U. S.....Harris
Garner, R. L.....Pollock
Holliday, S. J.....Pollock
Herrington, W.....Green City
Mager, R. S.....Green City
Poole, A. R.....Millan
Parsons, Wm.....Green Castle
Roberts, J. M.....Green City
Shepler, R. H.....Mystic
Shriver, C. F.....Harris
Taylor, W. L.....Green Castle
Tunnell, J. D.....Reger

VERNON COUNTY.

Altham, A. G.....Metz
Ammerman, I. W.....Nevada
Churchill, E. R.....Nevada
Chambers, J. C.....Shell City
Kelso, Z. C.....Nevada
Primm, W. B.....Deerfield
Ramsey, A. J.....Walker
Royston, W. P.....Horwood
Ross, G. M.....Horwood
Shafer, R. R.....Panama
Talbott, C. W.....Nevada

COUNTY SOCIETY NOTES

COUNTY SOCIETY NOTES.

Eleven applicants were admitted to membership at the meeting held on October 30th.

A meeting was called for November 27th to consider the change of meetings to monthly sessions.

Officers elected for 1907: President, E. C. Callison; vice president, J. S. Gashwiler; secretary and treasurer, E. C. Grim; delegate, James Hanks.

MEETING OF NOVEMBER 27TH.

The Adair County Medical Society made some important changes at a call meeting November 27th, 1906. The society will meet the first Thursday in each month, and a scientific program for the year 1907 is being made up in which each member of the society will present a paper during the year.

Dr. James Hanks was elected representative to the State associations and was also appointed by the society to prepare a paper for the program.

The councilor of the district, Dr. Henry Jurgens, was present at the meeting and gave us many practical suggestions —E. C. Grim, M. D., Secretary.

COLE COUNTY MEDICAL SOCIETY.

Cole County Medical Society held its regular meeting on November 8th and for the first time the scientific program consisted of papers contributed by the members of the society.

Dr. Hill read an excellent paper on the etiology, pathology and diagnosis of diseases of the gall-bladder and ducts. Dr. C. F. Enloe spoke briefly on the medical treatment while Dr. J. DeVoyne Guyot read a very comprehensive paper on the surgical treatment. A general discussion of the subject followed the reading of these papers.

The following were elected to membership: A. H. Rickhoff, Chamois; W. D. Townsley, Chamois; F. H. Cowgill, Morrison; L. F. Briesemeyer, Westphalia; L. A. Bowles, Westphalia; H. S. Gore, Linn; J. F. Jones, Linn; J. Jett, Linn.

On account of inadequate railroad connections, the District Councilor, Dr. G. Ettmueller, has affiliated the physicians in the northern part of Osage and Gasonade counties with the Cole County society. The district as now organized consists of Cole county and the northern

part of Osage and Gasconade counties, and Maries county and the southern part of Gasconade and Osage counties.—G. Ettmueller, M. D., President

DAVIESS COUNTY MEDICAL SOCIETY.

The meeting of November 27th, was held at Gallatin.

A paper on "Pneumonia" was read by Dr. Hanna of Gallatin. This was very interesting and brought out a liberal discussion.

Our District Councillor, Dr. Miller of Liberty, was present and made an interesting talk on the necessity and the benefits derived from medical organization.

Six new applicants were voted into membership of our society:—Dr. N. G. Sutcliff, Jamesport; Dr. Theodore N. Foster, Dr. S. S. Jerritt, Dr. Frank Hedges, Dr. Anna N. Henery and Dr. J. Z. Parker, Pattonsburg.

Visiting physicians were Dr. White of Spring Hill, Livingston Co., Dr. Patton of McFall, Dr. Hedrick of Madaline, and Dr. Lang of Gallatin.

Our next meeting will be held on the second Tuesday in January at which time there will be an election of officers. We would like to see all members present.—H. E. Songer, M. D. Reporter.

JACKSON COUNTY MEDICAL SOCIETY.

MEETING OF NOVEMBER 20TH.

The regular weekly meeting of the Jackson County Medical Society was held in the Club Rooms of the Athenaeum on Tuesday evening, November 20th, 1906. There was an attendance of 66 at this meeting.

A communication from the State Board of Health of Missouri was read calling attention to the fact that more was expected of the County Medical Society than seems to have been accomplished in the past in the work of eliminating quacks from this and other cities of the state: also informing the members of the Jackson County Medical Society that the Committee on Medical Examination, consisting of several members of the Board, would be in session in this city on November 27th, and if possible would be present at the regular meeting of this society.

In connection with the above communication, Dr. Herman E. Pearse, chairman of the Committee on Public Health and Legislation, who has been doing considerable energetic work along this line, made some remarks in criticism of one hospital and one medical college of this city which have in the one instance on its Board of Directors, and in the other on its faculty, a man otherwise of commendable standing in the community, but who has consented to undertake to defend

as objectionable a quack as C. H. Carson, recently arrested for practicing medicine in this state without a license. Dr. Pearse suggested that some steps be taken to inform the heads of the above institutions that the Jackson County Medical Society protested against their relations with the attorney referred to. Accordingly, upon motion of Dr. William Frick, a committee consisting of Drs. William Frick, B. C. Hyde, and J. P. Kanoky was appointed by the chair to wait upon the board of directors of the hospital and the faculty of the medical college, and in behalf of the Jackson County Medical Society, express their disapproval of the aforementioned relations with Mr. J. T. Harding; and to report at the meeting of November 27th.

Applications for membership were received from the following and were referred to the Board of Censors: Thomas E. Wyatt, A. W. McAlester, T. J. Ragsdale, Lee's Summit, Mo., C. E. Wilson, Arthur B. Randolph, C. C. Conover, W. S. Field, J. P. Henderson, J. C. Lynch, Samuel Voegelin, Joel I. Denman, A. J. Swaney, Lee's Summit, Mo., George Howard Hoxie, G. Wilse Robinson, and A. W. McArthur.

The Committee on Banquet, Dr. E. von Quast, chairman, reported, and upon motion the report was received and placed on file.

The report of the Committee appointed to oppose objectionable candidates for the State Legislature was received.

Resolutions in writing were introduced by Dr. E. L. Stewart in condemnation of the reckless and disgraceful newspaper advertising indulged in by the several daily papers of our city, and recommending that the Jackson County Medical Society endorse and assist the praiseworthy efforts of Mr. George Creel of the *Independent*, to eliminate quacks and quack advertisements from this city and county. These resolutions were unanimously adopted.

The motion introduced by Dr. F. T. Van Eman at the meeting of October 23, recommending that the constitution of the society be so changed as to place the regular meeting on alternating Saturday evenings was taken up for consideration. After some remarks by Drs. Van Eman, Hyde, Hertzler, Hardin, Kanoky, Murphy and Frick, ballot was spread and the motion was lost.

The professional program consisted of a paper by Dr. J. M. Allen, of Liberty, Mo., on the subject "Exophthalmic Goiter." This disease being one of the etiology of which is but little understood, the doctor's paper proved of considerable interest particularly from the standpoint of the classes of the disease, its course and its therapeutics.

The discussion was opened by Dr. J. H. Thompson in the absence of Dr. Samuel C. James; Dr. Thompson laid considerable stress on nerve shock as a factor in the cause of this disease. He has seen the affection only in women, and most commonly after a first pregnancy. He thought it was a disturbance of the brain rather than of the sym-

pathetic nervous system. He called attention to the horrible degree of nervousness, which was nearly always present in this disease. While belladonna has done some good in the treatment, the Doctor has seen very much relief from nicotine; but the latter is very difficult to administer, particularly to women. Dr. Thompson thought that surgery would do much to relieve the conditions found in Graves' disease.

Dr. A. E. Hertzler mentioned three cases of exophthalmic goiter wherein improvement followed operation for pelvic lesions: in one case there was a pus-tube, in the others chronic endometritis.

Others taking part in the discussion were Drs. Franklin E. Murphy, E. von Quast, J. P. Kanoky, Herman E. Pearse, C. M. Fulton and Roger B. Brewster. Dr. Allen closed the discussion.

Owing to the lateness of the hour the paper by Dr. J. W. Kyger, on the subject "The Modification of the Proteids in Infant Feeding" was postponed until a subsequent meeting.

MEETING OF NOVEMBER 27TH.

The regular weekly meeting was held Tuesday evening, November 27. There was an attendance of 185 at this meeting.

The minutes of the previous regular meeting were read and approved as read.

Applications for membership were received from the following and were referred to the Board of Censors: Eugene H. Kelley, A. C. Boswell, J. G. Lapp, Burrough Agin, J. N. Goodson, S. J. T. Davis, W. A. Henderson, A. W. Harrison, J. W. Albrittain, E. Anderson, and H. N. Carver.

Preceding the professional program, several members of the Missouri State Board of Health, of the Committee on Medical Examination, which was in session in Kansas City on November 26, 27, and 28, made a few remarks concerning some of the duties of the Board, and means whereby efforts toward the prosecution of quacks and irregulars could be successfully carried out. Those present were Drs. J. A. B. Adcock, of Warrensburg, Secretary of the Board, J. T. Thatcher, of Oregon, vice president, and W. S. Thompson, of Armstrong.

Dr. Arnold Lorand of Carlsbad, Austria, addressed the Society on the subject "The Influence of the Ductless Glands on Nervous and Mental Diseases." Those entering upon the discussion of this subject were Dr. John Punton, who opened the discussion, and Drs. H. C. Crowell, G. W. Robinson, A. E. Hertzler, J. M. Langsdale, J. G. Sheldon, and Maggie L. McCrea. Dr. Lorand closed the discussion.

A rising vote of thanks was tendered to Dr. Lorand for his excellent and highly interesting address.

MEETING OF DECEMBER 4TH.

The Society held its regular weekly meeting in the Club Rooms of the Athenaeum on Tuesday evening, December 4th. Sixty were in attendance at this meeting.

Two communications were read from the chairman of the Committee on Scientific work of the Missouri State Medical Association, in which reference was made to the proposed pathological exhibit which will be a feature of the program at the annual meeting in May, 1907; it was suggested therein that the president of this Society appoint a "Pathologic Committee" of three to co-operate with a similar committee from the University Medical College in the work of formulating plans. Accordingly, the chair appointed Dr. Frank J. Hall, Chairman, Dr. J. F. Binnie and Dr. William K. Trimble.

The membership committee having reported favorably upon each of the following, ballots were separately spread and all were duly elected to membership in this society viz: Drs. George Howard Hoqie, A. W. McAlester, C. E. Wilson, I. J. Ragsdale, A. B. Randolph, Chas. C. Conover, W. S. Field, J. P. Henderson, G. Wilse Robinson, A. W. McArthur, A.G. Swaney, Lee's Summit, Mo., Joel I. Denman, Samuel Voegelin, Thomas E. Wyatt, and J. C. Lynch.

A report from the committee appointed to protest against the relation of Mr. J. T. Hardin with St. Luke's Hospital and the University Medical College was tendered by Doctor William Frick; but on account of its being incomplete a motion was made by the secretary to grant the committee further time; however, a substitute motion by Doctor C. B. Hardin prevailed that the matter be laid on the table and it was so ordered.

The scientific program was of unusual interest; Dr. J. W. Kyger read a paper entitled "The Modification of the Proteids in Infant Feeding." His remarks referred to the alteration of form rather than to the adjustment of quantity of the proteids. He spoke of the use of citrate of sodium in the manner recommended by Cotton and of the late tendency to use more carbohydrates in the food for infants. The digestion of proteids and the importance of changing the character of albuminoids of cow's milk when fed to infants, were ably considered.

Dr. C. S. Merriman opened the discussion with some remarks in reference to the variation in the ability of different babies to digest starch. He spoke of the necessity of the modification of cow's milk in infant feeding and compared the digestion by infants of casein from cow's milk with that from human milk. He also emphasized the value of sodium citrate in the modification of cow's milk.

Others entering into the discussion were Drs. W. M. Cross, H. D. Jerowitz, Franklin E. Murphy, E. H. Skinner, Jos. S. Lichtenberg, and C. B. Hardin. Dr. Kyger closed the discussion.

Dr. E. F. Robinson then reported a case in which he operated for

ventral hernia, the patient three and one-half months pregnant. The doctor did the overlapping operation which has been described by Mayo; he recommended the technic of this method as most effective. This woman was delivered at term after a difficult labor because of a face presentation.

Dr. Arthur E. Hertzler opened the discussion. Drs. Howard Hill, Gordon A. Beedle and F. H. Brunig also taking part.

Dr. O. H. Dove reported the case of a woman with tuberculous peritonitis: in this case, in spite of the fact that the patient gave evidence of a chronic nephritis, the doctor was induced both by a history pointing to obstruction of the gall-ducts and by symptoms of a pyloric obstruction to perform posterior gastroenterostomy and cholecystostomy. He asked the question whether or not he was justified in doing as much as he did in this case, to relieve the complications present. The patient lived for about a week after the operation, when she died of uremia.

Dr. Howard Hill, in the absence of Dr. Jabez N. Jackson, opened the discussion stating that it was his opinion that the woman's physical condition prior to operation contraindicated radical surgical intervention.

Others taking part in the discussion were Drs. E. F. Robinson, B. C. Hyde, Gordon A. Beedle, S. C. James, A. E. Hertzler, John G. Sheldon and C. B. Hardin. The discussion was closed by Dr. Dove.

Dr. E. H. Skinner exhibited some interesting x-ray negatives with the shadow box. Those of special interest were radiographs of the pelvis, skull and of the chest illustrating the outlines of the heart, the ribs and the lungs both in health and disease.

MEETING OF DECEMBER 11TH.

The annual meeting of the Jackson County Medical Society was held in the Club Rooms of the Athenaeum on Tuesday evening, December 11th. There was an attendance of one hundred (100) at this meeting.

The report of the secretary for the year 1906 was read and upon motion of Dr. A. A. Freyman the report was received and placed on file. The report of the secretary reads as follows: To the Officers and Members of the Jackson County Medical Society:

As secretary of this society for the year beginning December 14, 1905, and ending December 11, 1906, I beg to leave to submit to you the following report:

There have been 32 regular meetings and one special, making a total of 33, during the year.

The number of those who have contributed to the scientific work of the society during the past year is 75; of this number 70 are members of this Society, while the rest are non-members; these

are Drs. J. M. Allen, of Liberty, Mo., C. C. Goddard, of Leavenworth, Kan., George M. Gray, of Kansas City, Kan., G. W. Grove, of Kansas City, Mo., and Arnold Lorand, of Carlsbad, Austria.

The programs included about an equal number of papers and reports of cases, 4 symposiums, several demonstrations and presentations of pathological specimens, and one address.

The meetings have been well attended the average for the year in attendance being 50. The secretary has paid to the treasurer in dues and admission fees a total of $1,339.00 and holds the receipts therefore, and orders have been drawn upon the treasurer for current expenses, State dues, contributions, *et cetera*, to the amount of $1,496.98.

Two members, Drs. J. S. Snider and Susan C. Wadell, have been suspended for non-payment of dues; two, Drs. C. L. V. Hedrick and J. H. Johnson, have withdrawn, and one, Dr. W. C. West, resigned; while the Society has had the misfortune of losing two members on account of death, viz.; Drs. M. P. Sexton and Chas. Lester Spaulding. Hence a total loss in membership of seven during the year.

The membership now numbers 302 with 11 applicants waiting: an increase of 60 members during 1906 against an increase of 45 members during the year 1905. It is indeed gratifying to observe this vast increase.

The secretary has tried to perform to the best of his ability the duties prescribed by the By-Laws of the Society, and required for the welfare of our organization. Respectfully submitted, Max Goldman, M. D., Secretary.

The report of the treasurer for the year 1906 was read and upon motion of Dr. A. A. Freyman the report was received and filed.

The election of officers, which was by ballot, in accordance with Chapt. III, Sec. I, of the By-Laws, resulted as follows: President, Dr. O. H. Dove, vice president, D. C. B. Hardin, Secretary, Dr. E. L. Stewart, Treasurer, Dr. L. W. Luscher (re-elected) censor, Dr. J. M. Langsdale, (J. W. Kyger, retired.)

Delegates to Missouri State Medical Association: Dr. R. T. Sloan, Dr. A. H. Cordier, Dr. Eugene Carbaugh, Dr. J. P. Kanoky, Dr. F. E. Murphy, (term expires 1908), Dr. J. M. Frankenburger, (term expires 1908), Dr. N. P. Wood, (term expires 1908).

Delegate to meeting of committee on Public Health and Legislation, in St. Louis, Dr. Franklin E. Murphy.

Executive Committee, Dr. Max Goldman, Dr. C. A. Ritter, Dr. F. T. Van Eman, Dr. E. A. Burkhardt, Dr. W. A. Shelton.—Max Goldman, M. D., Secretary.

HOWARD COUNTY MEDICAL SOCIETY.

The regular meeting of the society was held at Fayette on December 7th.

The resolutions relative to fees for examinations for life insurance, adopted at the last meeting of the State Medical Association, were unanimously endorsed.

Dr. T. C. Richards, formerly of Boone County, and Dr. T. J. Halsey, of Franklin, were elected to membership.

Dr. A. B. Burguin was appointed to prepare a paper for the next meeting of the State Medical Association, the title being "The Duty of Ex-Surgeons for Life Insurance Companies."— C. W. Watts, M. D., Secretary.

KNOX COUNTY MEDICAL SOCIETY.

At the meeting held on November 5th, the scientific program consisted of a symposium on "Lobar Pneumonia." Dr. George Brown read a paper on the "Symptoms, Diagnosis and Prognosis;" Dr. A. Arnett read a paper on "Treatment." The papers were freely discussed by the members, Dr. James Myers vigorously advocating the quinine treatment of Galbraith.

A communication from the Kentucky Medical Society opposing the reduction of fees for examinations for life insurance was endorsed by the society.

The next meeting will be held on the first Monday in January.— H. Jurgens, M. D., Secretary.

LAWRENCE-STONE COUNTY MEDICAL SOCIETY.

The consolidated counties held their regular meeting in Aurora on December 4th. The following excellent program was fully carried out:

"Pneumonia, the Nightmare of the Profession," by Dr. J. B. Fleming; "Membranous Croup," by Dr. W. W. Rodman; "Dionin: Its Practical Application in Diseases of the Eye," by Dr. W. A. Camp. Report of a case by Dr. N. F. Terry. The discussion following the reading of these papers was full of useful suggestions and practical points.

The following officers were elected for the ensuing year: President F. S. Stevenson; vice president, D. M. Huffman; secretary, C. A. Moore; treasurer, J. P. Baird; censor, W. M. Holmes.

Aurora was selected as the place for the next meeting to be held on March, 5, 1907.—C. A. Moore, M. D., Secretary.

LEWIS COUNTY MEDICAL SOCIETY.

Regular meeting was held at Canton December 20th. Owing to the bad condition of the roads the attendance was small, but all those present took an active part in the program.

Doctors C. O. Shanks and H. E. Dunlop of Canton were elected delegates to the State meeting.

Dr. Rebo of Canton introduced a resolution instructing the delegates from Lewis County to discuss the present attitude assumed by some life insurance companies in regard to compensation to physicians for making examinations for life insurance. This resolution was adopted.

The next meeting will be held at Quincy May 3rd. Paul F. Cole, Secretary.

MARION COUNTY MEDICAL SOCIETY.

The Marion County Medical Society held the regular monthly meeting December 7th at Hannibal. There was a good attendance and much interest manifested.

Some interesting cases were related as having come under observation recently. One case of Dr. Chownings was a negro boy with pistol wound penetrating left lobe of the liver, grazing the lessor curvature of stomach. Operation in median line, with gauze drainage, the patient is recovering.

Dr. Bounds related a case of gall-stones in a woman, with evident rupture of gall bladder or ducts followed by peritonitis and death.

Dr. Howell related the case of a woman 81 years of age—with tumor in nose and throat which was emitting foul odor and breaking down. The tumor removed with snare and curette six weeks ago—and as yet there has been no recurrence.

Dr. Waldo read an interesting paper on "Echinacea." He described it as an alterative and antiseptic, used locally and internally.

Dr. S. G. Smith applied for membership and was adopted as member.

After the program the Annual Election of officers for ensuing year resulted as follow:—President Thos. Chowning; vice president, J. C. Chilton; Secretary and treasurer. H. L. Banks; Reporter, J. J. Bourn; member of Board of Censors for three years, Dr. E. E. Waldo.

The annual banquet will be held in the latter part of January, 1907.—E. H. Bounds, M. D., Reporter

MILLER COUNTY MEDICAL SOCIETY.

Miller County Medical Society met at Tuscumbia on Dec. 13th.

Dr. W. L. Allee reported a very interesting case. Dr. Hickman read a paper entitled Puerperal Eclampsia which was well taken and fully discussed. Dr. W. S. Allee was chosen to represent Miller County Medical Society on the scientific program of the State Society which meets at Jefferson City next May.

Dr. Frank DeVilbiss was elected as delegate.

It being the annual meeting the following officers were chosen: President, W. A. Von Gremp; vice president, J. L. Gilleland; treasurer, D. H. Kouns; secretary, W. L. Allee.

The society then adjourned to meet at Tuscumbia in March.—J. L. Gilleland, M. D., Secretary.

NODAWAY COUNTY MEDICAL SOCIETY.

The Nodaway County Medical Society held its regular monthly meeting at Hopkins December 11th. There was a fair attendance but not as many present as there should have been in view of the fact that there are now in good standing in Nodaway county 35 members.

The members present listened to and discussed two very fine papers.

The first was on the subject of Anesthesia and Anesthetics, by Dr. Frank C. Wallis, of Maryville. The other Intracapsular Fracture of the Femur, by Dr. D. A. Sargent, of Hopkins.

We are making an effort to rid our county so far as possible of illegal practitioners and street venders of nostrums. We have a speccial committee appointed to look after these matters. It is the duty of all members to furnish this committee with any information concerning illegal practitioners or street venders of nostrums, that the committee may on behalf of the County Medical Society, promptly have them prosecuted.—H. L. Sayler, M. D., Reporter.

PIKE COUNTY MEDICAL SOCIETY.

At the annual meeting held on December 3rd, in Louisiana, the following officers were elected to serve during the year 1907: President, J. W. Dreyfus Louisiana; vice president J. E. Bankhead Clarksville; second vice president, O. M. Biggs, Louisiana; third vice president, C. A. Smith, Annada; secretary, R. G. Hereford, Louisiana; treasurer, T. G. Hetherlin, Louisiana; board of censors, Drs. Bankhead, Hetherlin, Biggs, Kennedy and Treadway.

The next meeting will be held at Louisiana on the first Monday in January when the following program will be presented: "Pneumonia," by Dr. Treadway; "Treatment of Fractures," by Dr. Biggs; "Post Partum Hemorrhage," by Dr. Pearson; "Typhoid Fever," by Dr. Kennedy.—R. G. Hereford, M. D., Secretary.

SCOTT COUNTY MEDICAL SOCIETY.

The Scott County Medical Society met in Commerce Monday, December 3rd, 1906, at 1 o'clock p. m.

Do you believe in the advancement of the medical profession?

Do you believe in a well organized, ethical medical association?

Do you believe you are acting in good faith to the medical profession and laity, when you are not a member of your county association?

There will be papers read at this meeting as follows: Dr. T. F. Frazer, Entero-Colitis; Dr. W. H. Wescoat, Placenta Previa; Dr. Milem, Malaria.

If you are interested, come to this meeting at Commerce Monday, December 3rd, 1906.—U. P. Haw, M. D., Secretary.

[The above was sent to the physicians of Scott county prior to the meeting held at Commerce on December 3rd. We trust the results were all that could be desired and look forward with much interest to a report of this meeting.—Ed.]

SHELBY COUNTY MEDICAL SOCIETY.

Shelby County Medical Society met at Lentner on October 31st, the subject for the evening being a symposium on Typhoid Fever. The following papers were presented: Etiology and Pathology, by Dr. Singleton; Prophylaxis and Diet, by Dr. Smith; Medical Treatment, by Dr. Carson. The meeting was well attended and the papers read proved interesting and profitable.—A. M. Wood, M. D., Reporter.

STE. GENEVIEVE COUNTY SOCIETY.

The Ste. Genevieve County Medical Society held its regular monthly meeting November 14th. As none of the members present had a paper, the time was devoted to a discussion and exchange of experiences. Dr. Hirsch made a special request that all members be present at next meeting for election of officers for ensuing year.

No further business appearing the society adjourned until second Wednesday in December.—R. W. Lanning, M. D., Secretary.

MEETING OF DECEMBER 12TH.

Dr. Hinch read a paper on "Membranous Croup, or Laryngeal Diphtheria." Dr. Lanning read a paper on "The Eruption of Varicella."

The application of Dr. Edw. Ford, of River Auxvases, for membership was received and tabled until next meeting.

The election of officers resulted in the re-election of the same ones as were in office during preceding year, viz: C. Moore, president; F. E. Hinch, vice president; R. W. Lanning, secretary and treasurer.

No further business appearing the society adjourned until second Wednesday in January, 1907.—R. W. Lanning, M. D., Secretary.

ST. LOUIS COUNTY MEDICAL SOCIETY.

At the annual meeting of the St. Louis County Medical Society held December 12th, the following officers were elected for 1907: President, F. E. Guibor, Maplewood; vice president, N. N. Jensen, Florissant; secretary-treasurer, R. D. Moore, Central; censor, three years, L. W. Cape, Maplewood; delegate, two years, W. H. Townsend, Maplewood.—R. D. Moore, M. D., Secretary.

VERNON COUNTY MEDICAL SOCIETY.

The Vernon County Medical Society met in regular session at Nevada, December 6.

A paper entitled, "The Relation of the Eye to Some of the Diseases of the Nervous System." Discussion by Drs. Dulin and McLemore.

This being the meeting for the annual election of officers, the following were elected for the coming year: President, W. T. Bohannon; vice president, J. M. Yater; secretary, T. McLemore; board of censors, T. B. M. Craig.

Dr. Dulin on his retiring from the presidency of the society, delivered a very able and appropriate address.

It was moved and carried that Dr. Dulin's paper be sent to the Journal of the State Medical Association for publication.—T. McLemore, M. D., Secretary.

WORTH COUNTY MEDICAL SOCIETY.

The society met in regular session at Grant City on December 19th. Our District Councilor, Dr. W. E. McKinley, was present and acted as chairman of the meeting.

After transacting routine business and reading of papers, officers for the ensuing year were elected as follows: President, Arch Long, Denver; vice president, Villa Gately, Grant City; second vice president, H. W. Mills, Grant City; secretary-treasurer, J. K. Phipps, Grant City; censor, J. D. F. Dove, Allendale.

The society endorsed the proposed law to reduce the time in which suit for mal-practice may be brought against physicians from five years to one year, and instructed its secretary to communicate with our representative advising him of this action.—J. K. Phipps, Secretary.

BOOK REVIEWS

SURGERY: ITS PRINCIPLES AND PRACTICE. In five volumes. By 66 eminent surgeons. Edited by W. W. Keen, M. D., LL. D., Hon. F.R.C.S., Eng. and Edin., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Phila. Vol. I: Octavo of 983 pages, with 261 text-illustrations and 17 colored plates. Philadelphia and London: W. B. Saunders Company, 1906. Per volume: Cloth, $7.00 net; Half Morocco, $8.00 net.

This entirely new surgery, edited by Dr. W. W. Keen, consists of five large octavo volumes covering the entire field of surgery in a thorough and complete manner. It has been possible to secure as authors of the various articles men whose names are specially associated with the subjects upon which they have written—renowned specialists with international reputations accepted as authorities throughout the surgical world. Every chapter represents a complete and original monograph by an authority of recognized eminence, the entire work being written by the leaders of modern surgery.

The first volume begins with a historical sketch of the development of surgery written by J. Gregory Mumford. An interesting essay by Crile on surgical physiology is followed by a chapter on the examination of the blood, contributed by J. C. Da Costa. In the next seven chapters the following topics are considered: Infection, immunity, inflammation, suppuration, ulceration, mortification, process of repair, thrombosis and repair. The authors of these chapters are Hektoen, Adami, Freeman, Wood and Frazier. Next are taken up erysipelas, tetanus, diseases caused by special infections and those derived directly from animals. There are five chapters devoted to a general consideration of scurvy, rickets, tuberculosis, chancroid and syphilis. The next chapter on tumors by John Bland-Sutton is one of special excellence. Crile concludes this splendid volume of more than 900 pages with an article on wounds and contusions.

CLINICAL BACTERIOLOGY AND HAEMATOLOGY. By W. D'Este Emery, M. D., B. Sc. London. Clinical Pathologist to King's College Hospital etc., etc. Being the second edition of "Handbook of Bacteriological Diagnosis for Practitioners." Philadelphia, P. Blakiston's Son & Co. 1906.

Extensive alterations are noticeable in this second edition. Additions to the bacteriologic portion are mostly concerned with the examination of materials from special parts of the body, such as the mouth, conjunctiva, etc., which were insufficiently dealt with in the first edition. The hematologic portion is almost entirely new. The manner in which this difficult subject is presented is eminently prac-

tical. First an explanation is given of the conditions under which an examination is indicated and then the method employed is described in full detail; the deductions to be drawn from the results obtained are set forth, and finally the author considers the caution necessary to avoid a wrong interpretation of the findings.

No practitioner who intends to practice the science of medicine in accord with modern ideas can neglect any means that will help him to arrive at the proper diagnosis. This principle makes the importance of books like the one before us at once obvious.

Prevalent Disease of the Eye. By Samuel Theobald, M. D., Clinical Professor of Ophthalmology and Otology, John Hopkins University. Octavo of 551 pages, with 219 text-illustrations, and 10 colored plates. Philadelphia and London. W. B. Saunders Company, 1906. Cloth, $4.50 net; Half Morocco, $5.50 net.

With few exceptions all the works on diseases of the eye, although written ostensibly for the general practitioner, are in reality adapted only to the specialist; but Dr. Theobald in his book has described very clearly and in detail only those conditions the diagnosis and treatment of which come within the province of the physician engaged in general practice. In every case only one course of definite treatment is given. There are over two hundred illustrations.

Abdominal Operations. By B. G. A. Moynihan, M. S. (London), F. R. C. S., Senior Assistant Surgeon at Leeds General Infirmary, England. *Second Revised Edition, Greatly Enlarged.* Octavo of 815 pages, with 305 original illustrations. Philadelphia and London: W. B. Saunders Company, 1906. Cloth, $7.00 net; Half Morocco, $8.00 net.

This work, the new second revised edition of which has just been issued, details in exact language the various abdominal operations. The author has achieved complete success in illustrating, both by words and pictures, the best technic of the abdominal operations. Peritonitis and appendicitis have been accorded unusual consideration. The beautiful illustrations have been specially drawn.

Obstetrics for Nurses. By Joseph B. DeLee, M. D., Professor of Obstetrics in the Northwestern University Medical School, Chicago. *Second Revised Edition.* 12mo of 510 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company, 1906. Cloth, $2.50 net.

In this new book Dr DeLee presents a work of the greatest value not alone to the nurse, but also to the practitioner, upon whom the duties of a nurse often devolve in the early years of his practice.

A Primer of Psychology and Mental Disease. For Use in Training Schools for Attendants and Nurses and in Medical Classes, and as a Ready Reference for the Practitioner. By C. B. Burr, M. D., Medical Director of Oak Grove Hospital (Flint, Mich.) for Mental and Nervous Diseases. Third Edition. Thoroughly Revised, with illustrations. Pages viii-183, 12mo. Bound in Extra Vellum Cloth, $1.25 net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia.

The leading feature of this little volume is the simplification of the study of psychology by the introduction of short definitions and the use of plain language in the description of mental processes. In part II mental diseases are discussed in their symptomatology from the psychologic side. In this section is given the modern classification of the various forms of insanity and their treatment. Part III and IV treat with the management of cases of insanity, considered both from the medical and surgical standpoint.

MISSOURI HISTORICAL REVIEW.

State Historical Society of Missouri, Columbia, Missouri.

The State Historical Society of Missouri has just issued the first number of the Missouri Historical Review, a quarterly publication of the Society. The contents include the following articles of interest and value on various phases of the history of the west and of Missouri: The Romance of Western History, by Professor E. G. Bourne of Yale University; Thomas Hart Benton, by Judge T. J. C. Fagg of Pike county; The Beginnings of Missouri Legislation, by Dr. Isidor Loeb of Columbia; Early Settlements in Missouri, by Professor E. M. Violette of Kirksville; Genealogy of the Lincoln, Hanks, and Boone families, by President H. E. Robinson, of Maryville; Bibliography of Official Publications of Missouri in 1906, by Mr. F. A. Sampson, Secretary of the Society. There are also Notes and News as to historical societies, etc. The purpose of the publication is to stimulate an interest in the history of the State and in the preservation of historical material and to furnish an opportunity for the publication of papers on all aspects of the history and development of Missouri. The Review is sent to all members of the Society. Any person may become a member upon application to the Secretary, Mr. F. A. Sampson, Columbia, Missouri, and the payment of the annual subscription of $1.00.

County Societies in Affiliation with the State Medical Association

County.	President	Address of President.	Secretary	Address of Secy.
Adair	E. C. Collison	Kirksville	E. C. Grim	Kirksville
Andrew	D. B. Bryant	Savannah	C. O. Jeffries	Savannah
Atchison	W. G. Stafford	Tarkio	A. McMichael	Rockport.
Audrain	C. A. Rothwell	Mexico	E. S. Cave	Mexico.
Barry	Wm. M. West	Monett	D. L. Mitchell	Cassville
Barton	G. D. Allee	Lamar	J. L. McComb	Lamar.
Bates	J. R. Coulson	Spruce	E. N. Chastain	Rich Hill.
Benton	G. S. Greeson	Lincoln	S. O. Davis	Warsaw.
Boone	I. E. Thornton	Columbia	W. A. Norris	Columbia.
Buchanan	P. I. Leonard	St. Joseph	Chas. W. Fassett	St. Joseph.
Butler	J. J. Norwine	Poplar Bluff	Ira W. Seybold	Poplar Bluff.
Caldwell	R. K. Dodge	Polo	Tinsley Brown	Hamilton.
Callaway	I. F. Harrison	Fulton	Martin Yates	Fulton.
Camden	G. M. Moore	Linn Creek	G. T. Myers	Macks Creek.
Cape Girardeau	H. L. Cunningham	Cape Girardeau	I. D. Porterfield, Jr.	Cape Girardeau.
Carroll	W. C. Baird	Bogard	R. F. Cook	Carrollton.
Carter-Shannon	F. Hyde	Eminence	W. F. Chaffin	Van Buren.
Cass	H. A. Brierly	Peculiar	J. A. Chilton	Raymore.
Cedar	Kimball Hill	El Dorado Springs	J. W. Dawson	El Dorado Springs.
Chariton	J. R. Gaines	Mussel Fork	C. A. Jennings	Salisbury.
Christian	J. C. Young	Ozark	J. A. Roberson	Ozark.
Clark	H. W. Harris	Winchester	A. H. Teel	Kahoka.
Clay	L. J. Jones	Linden	F. H. Matthews	Liberty.
Clinton	John Sturgis	Perrin	E. A. Colley	Plattsburg.
Cole	G. Ettmueller	Jefferson City	A. W. McAlester	Jefferson City.
Cooper	O. W. Cochran	Gooch Mill	J. R. Lionberger	Boonville.
Crawford	W. A. Metcalf	Steelville	A. H. Horn	Steelville.
Daviess	W. L. Brosius	Gallatin	M. A. Smith	Gallatin.
DeKalb	H. P. Yeater	Maysville	R. A. Evans	Amity.
Dent	A. F. McMurtrey	Salem	J. C. Welch	Salem.
Dunklin	N. F. Kelley	Kennett	G. L. Johnson	Kennett.
Franklin	H. A. Booth	Pacific	A. C. Brown	Moselle.
Gasconade-Marie Osage	J. J. Ferrell	Owensville	J. W. Nieweg	Lois.
Gentry	G. W. Whiteley	Albany	J. N. Conrad	Albany.
Greene	G. W. Barnes	Springfield	Robt. M. Cowan	Springfield.
Grundy	N. E. Sutton	Trenton	D. W. Coon	Trenton.
Harrison	A. H. Vandivert	Bethany	W. H. Wiley	Ridgeway.
Henry	W. H. Benway	Deepwater	F. M. Douglass	Clinton.
Holt	C. L. Evans	Oregon	J. F. Chandler	Forest City.
Howard	N. E. Smith	Fayette	C. W. Watts	Fayette.
Howell	A. H. Thompson	Lanton	A. H. Thornburgh	West Plains.
Iron	R. W. Gay	Ironton	Ira A. Marshall	Ironton.
Jackson	O. H. Dove	Kansas City	E. L. Stewart	Kansas City.
Jasper	J. D. Pifer	Joplin	R. M. James	Joplin.
Jefferson	J. W. Pickel	Crystal City	C. G. Harris	Festus.
Johnson	W. H. Farrar	Warrensburg	E. H. Gilbert	Warrensburg.
Knox	L. S. Brown	Edina	Henry J. Jurgen	Edina.
Laclede	J. C. Jacobs	Conway	P. L. Pritchett	Lebanon.
Lafayette	P. S. Fulkerson	Lexington	C. T. Ryland	Lexington.
Lawrence-Stone	F. S. Stevenson	Aurora	C. A. Moore	Aurora
Lewis	J. C. Brown	Lewistown	Paul F. Cole	Steffenville.
Lincoln	S. R. McKay	Troy	Wm. P. Smith	Troy.
Linn	J. W. Mason	Brookfield	Foster Burke	Laclede.
Livingston	L. E. Tracy	Chillicothe	W. M. Girdner	Chillicothe.
McDonald	E. F. Doty	Anderson	M. L. Sellers	Anderson.
Macon	W. H. Miller	Macon	C. W. Reagan	Macon.
Madison	C. A. Anthony	Fredericktown	S. C. Slaughter	Fredericktown.
Marion	Richard Schmidt	Hannibal	H. L. Banks	Hannibal.
Mercer	H. P. Chesmore	Princeton	C. R. Buren	Princeton.
Miller	W. A. Von Gremp	Iberia	W. L. Allee	Eldon.
Mississippi	G. R. Wallace	Bertrand	R. K. Ogilvie	Charleston.
Moniteau	J. M. Robertson	Latham	W. R. Patterson	Tipton.
Monroe	S. M. Brown	Monroe City	M. C. McMurry	Paris.
Morgan	W. L. Hatler	Barnett	J. T. Beale	Versailles.
New Madrid	Welton O'Bannon	New Madrid	C. W. Watson	New Madrid.
Newton	R. L. Wills	Neosho	Horace Bowers	Neosho.
Nodaway	F. R. Anthony	Maryville	H. L. Sayler	Elmo.
Pemiscot	J. G. Luten	Caruthersville	John Johnson	Hayti.
Perry	T. M. Hudson	Perryville	F. M. Vessells	Perryville.
Pettis	W. C. Overstreet	Sedalia	W. J. Ferguson	Sedalia.
Phelps	W. H. Bruer	St. James	S. L. Baysinger	Rolla
Pike	J. W. Dreyfus	Louisiana	R. G. Hereford	Louisiana.
Platte	C. H. Chastain	Weston	G. C. Coffey	Platte City.
Pulaski	W. L. Ragan	Richland	G. W. Orrick	Crocker.
Putnam	C. H. Carryer	Hartford	T. A. Townsend	Unionville.
Ralls	W. S. Harwood	Rensselaer	T. J. Downing	New London.
Randolph	G. O. Cuppaidge	Moberly	W. M. Dickerson	Renick.
Ray	L. D. Greene	Richmond	E. F. Higdon	Richmond.
Reynolds	J. M. Lowrey	Centerville	T. W. Chilton	Corridon.
Ripley	S. A. Proctor	Doniphan	J. F. Redwine	Doniphan.
Saline	D. C. Gore	Marshall	D. F. Bell	Marshall.
St. Charles	J. R. Mudd	St. Charles	B. K. Stumberg	St. Charles.
St. Clair	W. Cline	Appleton City	D. B. Williams	Osceola.
St. Francois	J. L. Haw	Farmington	A. L. Evans	Bonne Terre.
Ste. Genevieve	C. Moore	St. Marys	R. W. Lanning	St. Genevieve
St. Louis	J. C. Morfit	Humboldt Bldg	Davis Forster	5249 Raymond.
St. Louis Co.	R. E. Guibor	Maplewood	R. D. Moore	Central.
Schuyler	J. T. Jones	Queen City	H. E. Gerwig	Downing.
Scotland	W. E. H. Bondurant	Memphis	A. E. Platter	Memphis.
Scott	T. F. Frazier	Commerce	C. P. Haw	Benton.
Shelby	L. W. Dallis	Hunnewell	A. M. Wood	Lentner.
Stoddard	T. B. Wingo	Dexter	Ed. Moore	Bloomfield.
Sullivan	J. C. Kessinger	Milan	I. S. Montgomery	Milan.
Vernon	W. T. Bohannan	Nevada	T. McLemore	Nevada.
Warren	W. J. Alexander	Marthasville	E. A. Fluesmeier	Wright City.
Washington	J. A. Eaton	Belgrade	W. S. Smith	Belgrade.
Wayne	J. P. Sebastain	Patterson	R. J. Owens	Mill Spring.
Worth	Arch Long	Denver	J. K. Phipps	Grant City.

MEETINGS OF THE COUNTY MEDICAL SOCIETIES

County.	Date of Meeting.
Adair	Monthly. First Thursday.
Andrew	Monthly. First Wednesday.
Atchison	Quarterly. January, April, July, October.
Audrain	Monthly. First Monday.
Barton	Quarterly. First Thursday, May, Aug., Nov., Feb.
Bates	Quarterly. Last Thursday in Feb., May, Aug. and Nov.
Barry	
Benton	Quarterly. First Tuesday, January, April, July, October.
Boone	Monthly. First Monday.
Buchanan	Semi-Monthy. Second and Fourth Wednesday.
Butler	Monthly. Last Friday.
Caldwell	Quarterly. July, October, January, April.
Callaway	Monthly. Second Thursday.
Camden	Quarterly. Second Monday, April, July, Oct., and Jan.
Cape Girardeau	Monthly. Second Wednesday.
Carroll	Monthly. Second Tuesday.
Carter-Shannon	Quarterly. February, May, August and November.
Cass	Quarterly. First Thursday, March, June, Sept., Dec.
Cedar	Monthly.
Chariton	Monthly. Last Thursday.
Christian	
Clark	Bi-Monthly. First Mondays, Feb., April, June. Aug., Oct., Dec.
Clay	Monthly. Last Monday.
Clinton	Monthly. First Tuesday.
Cole	Quarterly. Second Thursday of Jan., April, July, Oct.
Cooper	Monthly. First Tuesday.
Crawford	Quarterly. First Tuesday, April, July, October, January.
Daviess	Quarterly. January, April, July, October.
DeKalb	
Dent	
Dunklin	Monthly. Second Tuesday.
Franklin	Monthly. First Tuesday.
Gasconade-Maries-Osage	Semi-Annual. Fourth Thursday, April and October.
Gentry	Monthly.
Greene	Semi-Monthly. Second and Fourth Friday.
Grundy	Quarterly. July, October, January, April.
Harrison	Quarterly. Third Tuesday, January, April, July, October.
Henry	Quarterly.—Second Wednesday, Dec., March, June, Sept.
Holt	Quarterly.—First Thursday, January, April, July, October.
Howard	Monthly. First Friday.
Howell	Bi-Monthly. First Thursday of Dec., Feb., April, June, Aug., Oct.
Iron	Monthly. First Saturday.
Jackson	Semi-Monthly. Second and Fourth Thursdays.
Jasper	Semi-Monthly. First and Third Mondays.
Jefferson	Quarterly. Fourth Tuesday, Jan., Apr., July, Oct.
Johnson	Quarterly. June, September, December, March.
Knox	Monthly. First Monday.
Laclede	Quarterly. Second Monday, Jan., April, July, Oct.
Lafayette	Monthly. Second Tuesday, Jan., Mch., May, July, Sept., Nov.
Lawrence	Monthly.
Lawrence-Stone	
Lincoln	Quarterly. May, August, November, February.
Linn	Bi-Monthly. Jan., March, May, July, Sept., Nov.
Livingston	Monthly. Third Wednesday.
McDonald	Quarterly. Second Wednesday, Jan., April, July, Oct.
Macon	Monthly. Second Tuesday. 10 a. m.
Madison	Semi-Monthly. First and Third Tuesday.
Marion	Monthly. First Friday.
Mercer	Monthly. Second Thursday.
Miller	Quarterly. First Thursday of March, June, Sept. and Dec.
Mississippi	Monthly. First Monday.
Moniteau	Quarterly. March, June, September, December.
Monroe	Quarterly. First Tuesday of April, July, October, January.
Morgan	Quarterly. First Wednesday of March, June, Sept., Dec.
New Madrid	
Newton	Monthly. Second Tuesday.
Nodaway	Monthly. Second Tuesday.
Pemiscot	Quarterly. First Tuesday, January, April, July, November.
Perry	Monthly. First Wednesday.
Pettis	Semi-Monthly. First and Third Monday.
Phelps	Quarterly. March, June, September, December.
Pike	Monthly.
Platte	Monthly. First Wednesday.
Pulaski	Quarterly. November, February, May, August.
Putnam	Monthly. First Wednesday.
Ralls	Quarterly. January, April, July and October.
Randolph	Monthly. Second Tuesday.
Ray	Monthly. Third Wednesday.
Reynolds	Quarterly. January, March, June, October.
Ripley	
Saline	Monthly. Second Tuesday.
St. Charles	Monthly.
St. Clair	Quarterly. Second Tuesday, March, June, Sept., Dec.
St. Francois	
Ste. Genevieve	Monthly. Second Wednesday.
St. Louis	Weekly. Saturdays.
St. Louis County	Monthly. Second Wednesday.
Schuyler	Semi-Annually. July and December.
Scotland	Monthly. Second Tuesday.
Scott	Monthly.
Shelby	Quarterly. June, September, December, March.
Stoddard	Bi-Monthly. First Wednesday, Jan., Mch., July, Sept., Nov.
Sullivan	Monthly.
Vernon	Quarterly. First Tuesday, March, June, Sept. and Dec.
Warren	Monthly.
Washington	Monthly. First Saturday.
Wayne	Monthly.
Worth	Monthly. Second Wednesday.

AMERICAN MEDICAL ASSOCIATION.

Next Annual Meeting at Atlantic City, 1907.

President: WM. J. MAYO, Rochester, Minn.
President Elect: JOSEPH D. BRYANT, New York City.
Secretary and Editor: GEORGE H. SIMMONS, 103 Dearborn Ave., Chicago.

MISSOURI STATE MEDICAL ASSOCIATION.

Next Annual Meeting, Jefferson City, May, 1907.

President: C. H. WALLACE, St. Joseph.
Vice-Presidents:
F. W. ALLEN, Callao; W. G. COWAN, Sedalia; C. J. ORR, St. Louis; E. H. THRAILKILL, Kansas City; H. L. RIED, Charleston
Secretary: C. M. NICHOLSON, St. Louis.
Assistant Secretary: GAIL ALLEE, Lamar.
Assistant Secretary: H. A. McDONALD, Pisgah.
Treasurer: J. FRANKLIN WELCH, Salisbury.

Medical Section.

Chairman: J. H. P. BAKER, Salisbury.
Secretary; GAIL ALLEE, Lamar.

Surgical Section.

Chairman: WARREN B. OUTTEN, St. Louis.
Secretary: H. A. McDONALD, Pisgah.

ORATORS.

Oration in Medicine:
WM. F. KUHN, Farmington.

Oration in Surgery:
PAUL Y. TUPPER, St Louis.

COMMITTEES:

Committee on Scientific Work.
C. M. Nicholson, Chairman; J. C. Morfit, F. E. Murphy.

Publication Committee.
C. M. Nicholson, Chairman; W. B. Dorsett; B. M. Hypes; W. G. Moore.

Committee on Public Health and Legislation.
F. J. Lutz, Chairman; Geo. Homan, H. E. Pearse.

Committee on Medical Education.
Woodson Moss, Chairman; W. B. Dorsett, Robt. T. Sloan.

Committee on Tuberculosis.
Wm. Porter, Chairman; J. M. Allen; W. S. Allee; B. H. Zwart.

COUNCILLOR DISTRICTS AND COUNTIES IN EACH DISTRICT.*

First District.—Councillor, E. E. Parrish, Memphis. Counties: Clark, Scotland, Schuyler.

Second District.—Councillor, H. Jurgens, Edina. Counties: Adair, Knox, Lewis.

Third District.—Councillor, J. D. Brummall, Salisbury. Counties: Chariton, Carroll, Livingston, Linn.

Fourth District.—Councillor, C. R. Buren, Princeton. Counties: Grundy, Sullivan, Mercer, Putnam.

Fifth District.—Councillor, E. H. Miller, Liberty. Counties: Platte, Clay, Ray, Clinton, Caldwell, Daviess.

Sixth District.—Councillor, W. E. McKinley, Denver. Counties: Harrison, Worth, Gentry, DeKalb.

Seventh District.—Councillor, W. T. Elam, St. Joseph. Counties: Buchanan, Holt, Atchison, Nodaway, Andrew.

Eighth District.—Councillor, L. W. Dallas, Hunnewell. Counties: Shelby, Marion, Ralls.

Ninth District.—Councillor, C. W. Reagan, Macon. Counties: Macon, Randolph, Monroe.

Tenth District.—Councillor, Woodson Moss, Columbia. Counties: Audrain, Boone, Howard, Callaway, Warren, *Montgomery*.

Eleventh District.—Councillor, W. B. Dorsett, St. Louis. Counties: Lincoln, St. Charles, St. Louis, Pike.

Twelfth District.—Councillor, F. J. Lutz, St. Louis. Counties: Franklin.

Thirteenth District.—Councillor, B. M. Hypes, St. Louis. Counties: Jefferson, St. Genevieve, Perry.

Fourteenth District.—Councillor, Wm. F. Kuhn, Farmington. Counties: Washington, Reynolds, Iron, St. Francis.

Fifteenth District.—Councillor, J. J. Norwine, Poplar Bluff. Counties: Mississippi, New Madrd, Wayne, Stoddard, Dunklin, Butler, Ripley, Carter, Pemiscot.

Sixteenth District.—Councillor, J. D. Porterfield, Jr., Cape Girardeau. Counties: Scott, Madison, Cape Girardeau, *Bollinger*.

Seventeenth District.—Councillor, W. S. Allee, Olean. Counties: Miller, Moniteau, Morgan, Camden.

Eighteenth District.—Councillor, G. Ettmueller, Jefferson City. Counties: Cole, Osage, Maries, Gasconade.

Nineteenth District.—Councillor, R. D. Haire, Clinton. Counties: Pettis, Henry, Benton, St. Clair, *Hickory*.

Twentieth District.—Councillor, C. T. Ryland, Lexington. Counties: Lafayette, Saline, Cooper.

Twenty-first District.—Councillor, M. P. Overholser, Harrisonville. Counties: Jackson, Cass, Johnson.

Twenty-second District.—Councillor, J. R. Buchanan, Nevada. Counties: Bates, Vernon, Barton.

Twenty-third District.—Councillor, A. R. Snyder, Joplin. Counties: McDonald, Newton, Jasper, Cedar, *Dade*.

Twenty-fourth District.—Councillor, R. L. Johnson, Rolla, Counties: Crawford, Phelps, Pulaski, Laclede, Dent, *Dallas*.

Twenty-fifth District.—Councillor, T. A. Coffelt, Springfield. Counties: Greene, Lawrence, Barry, Stone, Christian, *Webster, Polk, Taney*.

Twenty-sixth District.—Councillor, H. C. Shuttee, West Plains. Counties: Howell, Shannon, *Ozark, Oregon, Texas, Wright, Douglass*.

**Counties in italic are unorganized.*